Denver Employees Retirement Plan

Annual Comprehensive Financial Report

A Component Unit of the City and County of Denver, Colorado

Fiscal Year Ended December 31, 2023

Powering Your Future, Together.

Denver Employees Retirement Plan

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Fiscal Year Ended December 31, 2023

Lisa Zúñiga Ramirez, CFA
Retirement Board Chair

Heather K. Darlington, CPA
Executive Director

Prepared by the Denver Employees Retirement Plan Staff

Available online at DERP.org

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Primary Sponsor

City and County of Denver, Colorado

Elected Officials

Honorable Mike Johnston
Mayor

Honorable Paul D. López
Clerk and Recorder

Honorable Timothy M. O'Brien, CPA
Auditor

Denver City Council

Honorable Amanda P. Sandoval
District 1

Honorable Kevin Flynn
District 2

Honorable Jamie Torres
District 3

Honorable Diana Romero Campbell
District 4

Honorable Amanda Sawyer
District 5

Honorable Paul Kashmann
District 6

Honorable Flor Alvidrez
District 7

Honorable Shontel M. Lewis
District 8

Honorable Darrell Watson
District 9

Honorable Chris Hinds
District 10

Honorable Stacie Gilmore
District 11

Honorable Sarah Parady
Council Member at-Large

Honorable Serena Gonzales-Gutierrez
Council Member at-Large

Denver Employees Retirement Plan

May 23, 2024

Dear Members of the Denver Employees Retirement Plan:

We are pleased to present the Annual Comprehensive Financial Report (ACFR) of the Denver Employees Retirement Plan (DERP) of the City and County of Denver (city) for the fiscal year ended December 31, 2023.

Annual Comprehensive Financial Report This report is an overview intended to give the reader reliable and useful information which describes our financial position and provides assurance we are in compliance with applicable legal provisions. DERP's management is responsible for the accuracy of the data contained in this report, and we believe the information included presents fairly our fiduciary net position as of December 31, 2023, as well as the changes in fiduciary net position for the year.

Internal Control DERP management has designed and implemented internal and accounting controls to provide reasonable assurance of the accuracy and reliability of all the financial records and the safekeeping of our assets. There are inherent limitations in the effectiveness of any system of internal controls. The cost of internal control should not exceed anticipated benefits; therefore the objective is to provide reasonable, rather than absolute, assurance that the financial statements are free of material misstatement.

Independent Audit The city's Revised Municipal Code requires an annual audit of the trust fund, with the results being furnished to the mayor, the city council, and the city auditor. The retirement board selected the accounting firm UHY LLP to render an opinion as to the fairness of our 2023 financial statements. The audit was performed in accordance with auditing standards generally accepted in the United States of America and the standards for financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. The Independent Auditors' Report is included in this report's Financial Section.

Management's Discussion and Analysis Generally accepted accounting principles (GAAP) require DERP management provide a narrative introduction, overview, and analysis to accompany the basic financial statements in the form of Management's Discussion and Analysis (MD&A). This letter of transmittal is designed to complement the MD&A and should be read in conjunction. Our MD&A can be found immediately following the report of the independent auditors in this report's Financial Section.

DERP Profile We were established on January 1, 1963, as a defined benefit plan. Most city employees, certain employees of the Denver Health and Hospital Authority (DHHA), and all DERP staff are covered by DERP. Excluded from membership are the uniformed employees of the city's police and fire departments and the Denver Water Board employees. All non-DHHA active members are required to contribute to Social Security while employed. As of December 31, 2023, there were 9,928 active and 11,087 retired DERP members.

We are governed by a five member retirement board, and the members are appointed for staggered six-year terms by the mayor of the city. Additionally, three members of the advisory committee are elected by our members for staggered three-year terms and one member is appointed by the city's Career Service Board.

All DERP related benefit and administrative provisions are detailed in Sections 18-401 through 18-430.7 of the city's Revised Municipal Code. Any amendments must be enacted into ordinance by the Denver City Council and approved by the Mayor.

We provide retirement benefit options based upon the member's date of hire. At the time of retirement, a member may elect to receive a reduced benefit in order to provide a lifetime benefit to a spouse or an eligible beneficiary upon the member's death. We also provides disability and death benefits. With respect to other post-retirement benefits, we offer retired members and their beneficiaries the option of purchasing health, dental, and vision insurance coverage. Based on a formula incorporating a member's years of service, we pay a portion of the monthly insurance premium(s). A more detailed explanation of benefits is outlined in the Summary of Principal Plan Provisions in this report's Actuarial Section. Our membership services representatives provide ongoing pre-retirement counseling to the active members and assist retired members and their beneficiaries throughout the year.

Investment Performance We follow a strategic asset allocation ensuring investments are diversified. The goal of the asset allocation is to provide the highest level of return at an acceptable level of risk. For 2023, the investment portfolio generated a 9.6% net of fee return, above our 7.0% assumed rate. Our results were behind the median large public plan return of 11.7%. For the trailing 5-year period, the annual compounded return is 7.4%, which lags the fund policy index of 8.2% and the median large public plan return of 8.3%. For the 10-year period, our portfolio return stands at 6.0%, behind the 6.4% return of both our blended benchmark and our peers.

Funded Status Our pension benefit fund continues to be in a healthy financial position and actuarially sound. The retirement board, the executive director, and our staff remain committed to managing our assets and liabilities to maintain our long-term financial soundness and to have the funds needed to pay every dollar of benefits promised to every current and future retiree. The funded status of the pension benefit fund for the year beginning January 1, 2023 was 59.7%. We continue to work successfully with the city to annually receive the full amount of the actuarially determined contribution necessary to achieve our funding goals. Additional information regarding our funding is included in this report's Actuarial Section.

Awards The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to us for our ACFR for the fiscal year ended December 31, 2022. The Certificate of Achievement is a prestigious national award recognizing excellence in the preparation of state and local government financial reports. To be awarded the Certificate of Achievement for Excellence in Financial Reporting, a government unit must publish an easily readable and efficiently organized report, the contents of which meet or exceed program standards. The report must satisfy both generally accepted accounting principles and applicable legal requirements. A Certificate of Achievement is valid for one year. We have received a Certificate of Achievement for 34 years in a row and we believe this current report continues to meet the Certificate of Achievement program requirements and will submit it to the GFOA for consideration again this year.

Furthermore, the GFOA has given an Award for Outstanding Achievement in Popular Annual Financial Reporting to us for our Popular Annual Financial Report for the fiscal year ended December 31, 2022. The Award for Outstanding Achievement in Popular Annual Financial Reporting is a prestigious national award recognizing conformance with the highest standards for preparation of state and local government popular reports. In order to receive an Award for Outstanding Achievement in Popular Annual Financial Reporting, a government unit must publish a Popular Annual Financial Report, whose contents conform to program standards of creativity, presentation, understandability, and reader appeal. An Award for Outstanding Achievement in Popular Annual Financial Reporting is valid for a period of one year only. This is the fourth year we received a Popular Award. We believe our current report continues to conform to the Popular Annual Financial Reporting requirements, and we are submitting it to GFOA to determine its eligibility for another award.

Conclusion We express our appreciation to our staff who served our membership throughout 2023 and who prepared this report. We hope readers find the report easy to read and understand, and will recognize the contributions that the retirement board, advisory committee, and staff make toward our continued successful operation.

Sincerely,

Lisa Zúñiga Ramirez, CFA
Retirement Board Chair

Heather K. Darlington, CPA
Executive Director

Retirement Board

The retirement board's role is to ensure DERP is appropriately governed and managed. The retirement board acts as trustees for City and County of Denver (city) employees, Denver Health and Hospital Authority (DHHA) covered employees, retired members, and their beneficiaries. They oversee the investment of assets, approve the operating budget, and set policy. One member must be a active, vested employee and one must be a retired member.

Diane Barrett
Retired Member
Term expires January 1, 2026

George Delaney
Retired Member
Term expires January 1, 2028

John E. Dominguez
Term expires January 1, 2029

Guadalupe Gutierrez-Vasquez
Active Member
Term expires January 1, 2027

Lisa Zúñiga Ramirez, CFA
Term expires January 1, 2025

Advisory Committee

An advisory committee member represents city employees, DHHA covered employees, and retired members and presents suggestions and questions to the retirement board. The advisory committee consists of four members who serve staggered 3-year terms. One member is appointed by the Denver Career Service Board, and the other three are elected by membership. One elected member must be an active, vested city or DHHA employee, one must be a retired member, and the third can be an active, vested city or DHHA employee or retired member. Advisory committee members are not responsible for the administration and management of DERP and do not vote on retirement board motions or resolutions.

Heather Britton
Appointed by the Career Service Board
Term expires June 30, 2026

Maro Casparian
Active Member
Term expires June 30, 2026

Roberta Monaco
Retired member
Term expires June 30, 2025

Danielle Sexton
Active Member
Term expires June 30, 2025

Professional Services

Actuary
- Cheiron, Inc.

Custodian Bank
- Bank of New York Mellon Corporation

Independent Auditor
- UHY LLP

Investment Consulting
- Meketa Investment Group

Investment Managers

Domestic Equity Managers
- Brown Advisory
- Eagle Capital Management
- Franklin Templeton
- Mellon Investments Corporation
- Neuberger Berman

International Equity Managers
- Altrinsic Global Advisors
- Dimensional Fund Advisors
- LSV Asset Management
- Mellon Investments Corporation
- WCM Investment Management

Fixed Income Managers
- Ares Management, LLP
- Athyrium Capital Management, LP
- Bain Capital, LP
- Colchester Global Investors Limited
- Davidson Kempner Capital Management, LP
- Fortress Investment Group, LLC
- Blackstone Credit (fka GSO Capital Partners)
- Mellon Investments Corporation
- Silver Rock Financial, LP

Real Estate Mangers
- Contrarian Capital Management, LLC
- DRA Advisors, LLC
- Prudential Real Estate Investors
- UBS Realty Investors, LLC
- Walton Street Capital, L.L.C.

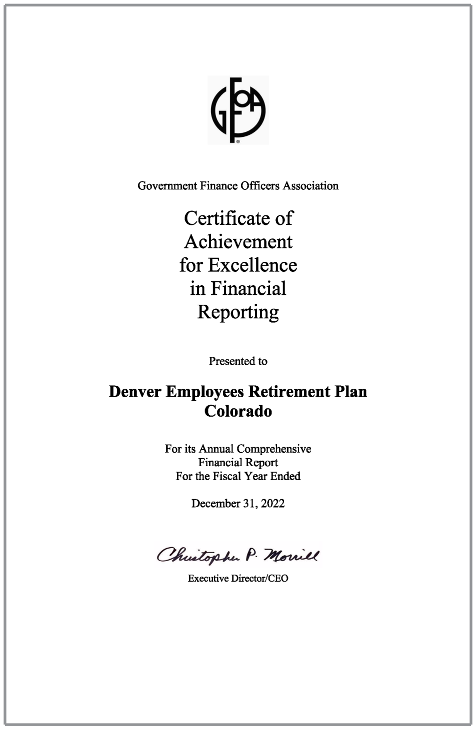
Alternative Investment Managers
- Adams Street Partners, LLC
- EIG Global Energy Partners
- Hancock Natural Resource Group
- JP Morgan Private Equity Group
- Kayne Anderson Capital Advisors, L.P.
- Lime Rock Resources

Absolute Return Funds
- 36 South Capital Advisors, LLP
- Alpstone Capital (Suisse) SA
- DG Partners, LLP
- Empyrean Capital Partners, LP
- Lombard Odier Asset Management (USA) Corp
- Pillar Capital Management Limited
- Sculptor Capital, LP
- Southpoint Capital Advisors, LP
- Waterfront Capital Partners LLC

Infrastructure
- JP Morgan Investment Management Inc.
- Kohlberg, Kravis, Roberts (KKR)

Investment commissions and fees can be found on pages 62 -63 in the Investment Section.

Certificate of Achievement for Excellence in Financial Reporting


Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

Denver Employees Retirement Plan Colorado

For its Annual Comprehensive Financial Report For the Fiscal Year Ended

December 31, 2022

Christopher P. Morrill

Executive Director/CEO

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the Denver Employees Retirement Plan for its Annual Report for the fiscal year ended December 31, 2022.

The Certificate of Achievement is the highest form of recognition for excellence in state or local government financial reporting. The Certification of Achievement Program was established to encourage municipal governments to publish high quality financial reports and to provide peer recognition and technical guidance for officials preparing these reports.

In order to be awarded a Certification of Achievement, a government unit must publish an easily-readable and efficiently-organized annual financial report, whose contents conform to program standards. Such reports should go beyond the minimum requirements of generally accepted accounting principles and demonstrate an effort to clearly communication the municipal government's financial picture, enhance an understanding of financial reporting by municipal governments and address user needs. A Certification of Achievement is valid for a period of one year only.

Outstanding Achievement in Popular Annual Financial Reporting

The Government Finance Officers Association of the United States and Canada (GFOA) has given an Award for Outstanding Achievement in Popular Annual Financial Reporting to the Denver Employees Retirement Plan for its Popular Annual Financial Report for the fiscal year ended December 31, 2022. The Award for Outstanding Achievement in Popular Annual Financial Reporting is a prestigious national award recognizing conformance with the highest standards for preparation of state and local government popular reports.

In order to receive an Award for Outstanding Achievement in Popular Annual Financial Reporting, a government unit must publish a Popular Annual Financial Report, whose contents conform to program standards of creativity, presentation, understandability, and reader appeal.

An Award of Outstanding Achievement in Popular Annual Financial Reporting is valid for a period of one year only. This is the fourth year the Denver Employees Retirement Plan has received a Popular Award. We believe our current report continues to conform to the Popular Annual Financial Reporting requirements, and we are submitting it to GFOA to determine it eligibility for another Award.

Executive Director				
Directs the overall management ensuring DERP accomplishes its mission and strategic initiatives set forth by the retirement board				
Deputy Executive Director / Membership Services Director	**Chief Investment Officer**	**Finance & Technology Director**	**General Counsel**	**Marketing & Communications Director**
Delivers a great member experience for each member; creates positive relationships managing membership activities, education, and benefit programs	Manages all investment related duties and risk exposures, working closely with investment advisors to develop and execute investment strategies	Utilizes forward-thinking strategies to provide direction and oversight that conforms to generally accepted accounting principles and actuarial best practices; directs technical infrastructure	Provides legal advice, representation, and services to the retirement board, the executive director, and DERP staff	Develops and implements marketing, communication, and educational strategies to strengthen DERP's presence, create awareness, communicate value, and enhance the member experience

Financial Section

UHY LLP
Certified Public Accountants

INDEPENDENT AUDITOR'S REPORT

Retirement Board
Denver Employees Retirement Plan
Denver, Colorado

Opinion

We have audited the accompanying financial statements of the Denver Employees Retirement Plan (DERP), a component unit of the City and County of Denver, which comprise of the statement of fiduciary net position and statement of changes in net position, as of and for the year ended December 31, 2023, and the related notes to the financial statements, which collectively comprise DERP's basic financial statements as listed in the table of contents.

In our opinion, the financial statements referred to above present fairly, in all material respects, the fiduciary net position of DERP, as of December 31, 2023, and the respective changes in its fiduciary net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinions

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (GAAS) and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of DERP and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about DERP's ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinions. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS and *Government Auditing Standards* will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS and *Government Auditing Standards*, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of DERP's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about DERP's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and the schedule of changes in net pension liability and related ratios, employer contributions and investment returns and related notes, as listed in the table of contents, be presented to supplement the basic financial statements. Such information is the responsibility of management and, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Report on Summarized Comparative Information

We have previously audited DERP's financial statements as of December 31, 2022, and we expressed an unmodified opinion on those statements in our report dated May 25, 2023. In our opinion, the summarized comparative information presented herein as of and for the year ended December 31, 2022 is consistent, in all material respects, with the audited financial statements from which it has been derived.

Supplementary Information

Our audit was conducted for the purpose of forming an opinion on the financial statements as a whole. The schedule of administrative expenses and the schedule of investment expenses are presented for purposes of additional analysis and is not a required part of the financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. The information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with GAAS. In our opinion, the information is fairly stated in all material respects in relation to the financial statements as a whole.

Other Information included in the Annual Report

Management is responsible for the other information included in the annual report. The other information comprises the introductory, investment, actuarial and statistical sections, but does not include the basic financial statements and our auditor's report thereon. Our opinion on the basic financial statements do not cover the other information, and we do not express an opinion or any form of assurance thereon.

In connection with our audit of the basic financial statements, our responsibility is to read the other information and consider whether a material inconsistency exists between the other information and the basic financial statements, or the other information otherwise appears to be materially misstated. If, based on the work performed, we conclude that an uncorrected material misstatement of the other information exists, we are required to describe it in our report.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated May 23, 2024, on our consideration of DERP's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the result of that testing and not to provide an opinion on the effectiveness of DERP's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering DERP's internal control over financial reporting and compliance.

UHY LLP

Columbia, Maryland
May 23, 2024

This is an analysis and overview of the financial activities of the Denver Employees Retirement Plan (DERP) for the year ended December 31, 2023. For additional information, refer to the basic financial statements, notes to the financial statements, required supplementary information, and supporting schedules.

Financial Highlights

As of December 31, 2023, the fiduciary net position of $2,563,880,081 was restricted for the payment of benefits and to meet future obligations to our members and their beneficiaries.

For 2023, our total fiduciary net position restricted for benefits increased by $164,635,940, a 6.9% increase from the amount of net position restricted for benefits reported at the end of 2022. The increase for 2023 is the result of favorable market conditions that contributed to net investment gain of $225,890,765, reduced by benefit payments exceeding contributions received.

Additions to our fiduciary net position included contributions of $154,404,693 from the City and County of Denver (city) and $5,179,730 from the Denver Health and Hospital Authority (DHHA). In addition, active members of DERP contributed $75,788,120.

Deductions from our fiduciary net position during 2023 totaled $296,627,368. This amount is 5.9% lower than the total 2022 deductions. Decreases in DROP distributions during 2023 were the primary driver of the decrease in deductions. The decrease in DROP distributions was offset by an increase in the amount of retiree benefits of 2.8%.

Our funding objective is to meet its long-term benefit obligations through employer and employee contributions and investment returns. As of January 1, 2023, the date of the last actuarial valuation, the funded ratios for the pension and health benefits funds were 59.7% and 49.9%, respectively.

Overview of the Financial Statements

The following discussion and analysis is intended to serve as an introduction to our financial statements which follow. The financial statements include:

- Statement of Fiduciary Net Position
- Statement of Changes in Fiduciary Net Position
- Notes to Financial Statements
- Required Supplementary Information
- Supplementary Information

The **Statement of Fiduciary Net Position** presents our assets, liabilities, and net position as of December 31, 2023, with summarized comparative totals for 2022. This statement reflects our net position available for benefits in each the retirement and the health benefits funds as of December 31, 2023, and in the aggregate as of December 31, 2022.

The **Statement of Changes in Fiduciary Net Position** shows the additions to and deductions from our net position during 2023, with summarized comparative totals for 2022.

The Governmental Accounting Standards Board (GASB) promulgates the requirements for financial statement presentation and certain disclosures for state and local governmental entities. The financial statements, notes to financial statements, and required supplementary information presented in this report were prepared in compliance with applicable GASB pronouncements.

The financial statements provide a snapshot of our assets and liabilities as of December 31, 2023 and the financial activities that occurred during the year. The financial statements were prepared using the economic resources measurement focus and the accrual basis of accounting. Investment activities have been reported based on trade dates and were valued pursuant to independent outside sources. All capital assets, exclusive of land, are depreciated over their useful lives. Refer to the financial statements and notes to the financial statements for additional information.

Notes to Financial Statements provide additional information which is essential for a full understanding of the basic financial statements.

Required Supplementary Information provides additional information and details about our sources of changes in it's net pension and other post-employment benefits (OPEB) liabilities and the history of employer and employee contributions.

Supplementary Information is also included. The Schedule of Administrative Expenses presents the overall cost of administering DERP. The schedule of Investment Expenses shows the cost associated with investing our assets.

Financial Analysis

There are several ways to measure our financial status. One means is to determine our fiduciary net position available to pay benefits, which is the difference between total assets and total liabilities. Another way to measure our financial status is to refer to the funded ratio which takes into account our actuarial value assets and actuarial liabilities.

On December 31, 2023, our fiduciary net position totaled $2,563,880,081. Of this amount, $58,730,725 represented funds in the Deferred Retirement Option Plan (DROP) and the Amended Deferred Retirement Option Plan (DROP II) accounts.

The DERP Retirement Bard has an investment allocation strategy in place and, with the help of an outside consultant, continually monitors our investments. Our total assets increased in 2023 due to favorable market performance across multiple sectors. As of December 31, our fiduciary net position was:

	2023	2022	Amount of Change	Percentage Change
Assets				
Cash, short-term investments, and receivables	$ 68,383,277	$ 66,815,638	$ 1,567,639	2.3 %
Securities lending collateral	61,700,970	68,602,894	(6,901,924)	(10.1)%
Investments, at fair value	2,496,217,623	2,332,598,410	163,619,213	7.0 %
Capital assets, net	1,529,228	1,950,243	(421,015)	(21.6)%
Total assets	**2,627,831,098**	**2,469,967,185**	**157,863,913**	**6.4 %**
Liabilities				
Accounts and lease payable and unsettled securities purchased	2,193,572	2,033,775	159,797	7.9 %
Securities lending obligations	61,700,970	68,602,894	(6,901,924)	(10.1)%
Total liabilities	63,894,542	70,636,669	(6,742,127)	(9.5)%
Deferred inflow of resources	56,475	86,375	(29,900)	(34.6)%
Fiduciary net position	**$ 2,563,880,081**	**$ 2,399,244,141**	**$ 164,635,940**	**6.9 %**

Reserves

We have established a reserve account for accumulated DROP benefits of $58,730,725 as of December 31, 2023. These funds are restricted for individuals who elected to participate in one of the DROP programs. Upon retirement, the member could elect to receive distributions or keep the accumulated monies in the trust. The remaining DERP fiduciary net position is available to pay pension and health benefits to all eligible members and beneficiaries.

Plan Activities

Net additions to the trust were greater than deductions, resulting in an overall 6.9% increase in fiduciary net position for the year. For the years ended December 31, our activities were:

	2023	2022	Amount of Change	Percentage Change
Additions				
Contributions	$ 235,372,543	$ 208,574,637	$ 26,797,906	12.8 %
Net investment earnings	225,890,765	(243,820,897)	469,711,662	192.6 %
Total additions, net	**461,263,308**	**(35,246,260)**	**496,509,568**	**1,408.7 %**
Deductions				
Benefits	291,323,819	310,458,134	(19,134,315)	(6.2)%
Administrative expenses	5,303,549	4,804,468	499,081	10.4 %
Total deductions	**296,627,368**	**315,262,602**	**(18,635,234)**	**(5.9)%**
Change in fiduciary net position	164,635,940	(350,508,862)	515,144,802	147.0 %
Beginning of year fiduciary net position	2,399,244,141	2,749,753,003	(350,508,862)	(12.7)%
End of year Fiduciary net position	**$ 2,563,880,081**	**$ 2,399,244,141**	**$ 164,635,940**	**6.9 %**

Additions to Fiduciary Net Position

The money needed to pay benefits is accumulated from contributions made by employers and employees and income generated from our investments. Income or losses on investments are reported net of investment management expenses. Employer contributions for 2023 totaled $159,584,423, which is 17.2% higher than the amount contributed in 2022, due primarily to a significant increase in covered payroll in 2023. During 2023, employees contributed a total of $75,788,120, which is an increase of 4.6% over the 2022 amount, and due to a significant increase in covered payroll. Our net investment return was 9.6% in 2023 compared to (8.6)% in 2022. Both domestic and international equities performed strongly in 2023. Most areas of the investment portfolio performed well during the year, but real estate and private equity experienced losses. We had net securities lending transaction income of $231,678 in 2023 and $261,548 in 2022.

	2023	2022	Amount of Change	Percentage Change
Employer contributions	$ 159,584,423	$ 136,145,712	$ 23,438,711	17.2 %
Employee contributions	75,788,120	72,428,925	3,359,195	4.6 %
Net appreciation (depreciation) in fair value of investments	194,982,293	(293,751,342)	488,733,635	166.4 %
Interest, dividends, real estate/alternative investments, and absolute return income	46,893,824	64,583,514	(17,689,690)	(27.4)%
Securities lending transactions income, net	231,678	261,548	(29,870)	(11.4)%
Investment expenses	(16,217,030)	(14,914,617)	(1,302,413)	8.7 %
Total additions, net	**$ 461,263,308**	**$ (35,246,260)**	**$ 496,509,568**	**1,408.7 %**

Deductions from Fiduciary Net Position

We provide a lifetime monthly DERP Pension Benefit to our retired members, as well as beneficiary, disability, and retiree health, dental, and vision benefits. Our annual expenses include retirement benefits, DROP distributions, refunds of employee contributions, and administrative expenses. For the year ended December 31, 2023, deductions totaled $296,627,368, a decrease of 5.9% over the amount of 2022 total deductions. The decrease is mainly attributed to lower DROP distributions of $23,890,851. Additionally, refunds of contributions to non-vested members decreased 28.0% compared to the previous year. Administrative expenses were slightly higher than those of the previous year due primarily to an increase in salary expenses for paying out leave accruals to retiring staff.

	2023	2022	Amount of Change	Percentage Change
Benefits	$ 284,728,784	$ 301,304,320	$ (16,575,536)	(5.5)%
Employee refunds	6,595,035	9,153,814	(2,558,779)	(28.0)%
Administrative expenses	5,303,549	4,804,468	499,081	10.4 %
Total deductions	**$ 296,627,368**	**$ 315,262,602**	**$ (18,635,234)**	**(5.9)%**

Capital Assets

Capital assets, net of accumulated depreciation, had a net decrease of $421,015 for the year ended December 31, 2023, which is comprised primarily of depreciation expense of $394,173. Refer to Note 8 Capital Assets for additional information.

Requests for Information

This management's discussion and analysis is intended to provide our retirement board, participating employers, and the membership with an overview of our financial position as of December 31, 2023, and a summary of our activities for the year then ended.

Questions about any of the information presented or requests for additional information should be directed to:

Denver Employees Retirement Plan
777 Pearl St. | Denver, CO 80203
Phone: 303-839-5419
Fax: 303-839-9525
Web: DERP.org
Email: Help@DERP.org

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Statement of Fiduciary Net Position

December 31, 2023
(with Summarized Comparative Totals for December 31, 2022)

	Pension Benefits	Health Benefits	December 31, 2023	December 31, 2022
Assets				
Cash and short-term investments	$ 53,064,851	$ 1,689,400	$ 54,754,251	$ 56,579,912
Securities lending collateral	59,835,111	1,865,859	61,700,970	68,602,894
Receivables				
Unsettled securities sold	2,403,701	74,955	2,478,656	322,369
Contributions	8,882,817	276,996	9,159,813	8,174,993
Interest and dividends	1,875,595	58,487	1,934,082	1,651,989
Leases receivable	54,767	1,708	56,475	86,375
Total receivables	**13,216,880**	**412,146**	**13,629,026**	**10,235,726**
Investments, at fair value				
U.S. Government obligations	286,967,790	8,948,619	295,916,409	414,001,488
Domestic corporate bonds and other fixed income	293,779,330	9,161,025	302,940,355	165,778,256
Domestic stocks	495,054,955	15,437,474	510,492,429	427,424,871
International stocks	517,764,326	16,145,628	533,909,954	461,045,869
Real estate	186,033,744	5,801,156	191,834,900	235,542,925
Alternative investments	405,156,535	12,634,140	417,790,675	437,244,499
Absolute return	166,058,450	5,178,259	171,236,709	120,580,067
Infrastructure	69,915,977	2,180,215	72,096,192	70,980,435
Total investments	**2,420,731,107**	**75,486,516**	**2,496,217,623**	**2,332,598,410**
Capital assets				
Land	417,036	13,005	430,041	430,041
Building and equipment, net of accumulated depreciation	1,033,989	32,243	1,066,232	1,501,731
Lease Equipment	31,958	997	32,955	18,471
Total assets	**2,548,330,932**	**79,500,166**	**2,627,831,098**	**2,469,967,185**
Liabilities				
Unsettled securities purchased	14,296	446	14,742	11,890
Securities lending obligations	59,835,111	1,865,859	61,700,970	68,602,894
Leases payable	33,602	1,048	34,650	19,963
Accounts payable	2,079,339	64,841	2,144,180	2,001,922
Total liabilities	**61,962,348**	**1,932,194**	**63,894,542**	**70,636,669**
Deferred inflow of resources	54,767	1,708	**56,475**	86,375
Fiduciary net position restricted for benefits	**$ 2,486,313,817**	**$ 77,566,264**	**$ 2,563,880,081**	**$ 2,399,244,141**
Fiduciary net position restricted for pension and health benefits	$ 2,427,583,092	$ 77,566,264	$ 2,505,149,356	$ 2,325,553,063
Fiduciary net position restricted for DROP and DROP II benefits	58,730,725	—	58,730,725	73,691,078
Fiduciary net position restricted for benefits	**$ 2,486,313,817**	**$ 77,566,264**	**$ 2,563,880,081**	**$ 2,399,244,141**

See **Notes to Financial Statements**

Statement of Changes in Fiduciary Net Position

Year Ended December 31, 2023
(with Summarized Comparative Totals for the Year Ended December 31, 2022)

	Pension Benefits	Health Benefits	Year ended December 31, 2023	2022
Additions				
Contributions				
City and County of Denver, Colorado	$ 148,134,927	$ 6,269,766	$ 154,404,693	131,831,032
Denver Health and Hospital Authority	4,964,444	215,286	5,179,730	4,314,680
Plan members	72,767,009	3,021,111	75,788,120	72,428,925
Total contributions	**225,866,380**	**9,506,163**	**235,372,543**	**208,574,637**
Investment earnings				
Net appreciation (depreciation) in fair value of investments	189,088,688	5,893,605	194,982,293	(293,751,342)
Dividends	13,863,912	433,925	14,297,837	13,619,074
Interest	19,479,506	609,612	20,089,118	9,933,908
Real estate, alternative investments, and absolute return gain/(loss)	12,261,099	245,770	12,506,869	41,030,532
	234,693,205	7,182,912	241,876,117	(229,167,828)
Investment expenses	(15,725,496)	(491,534)	(16,217,030)	(14,914,617)
	218,967,709	6,691,378	225,659,087	(244,082,445)
Securities lending transactions income	3,517,724	110,126	3,627,850	1,385,042
Securities lending transactions expenses				
Borrower rebates	(3,218,228)	(100,755)	(3,318,983)	(1,036,362)
Agent fees	(74,847)	(2,342)	(77,189)	(87,132)
	224,649	7,029	231,678	261,548
Net investment earnings	219,192,358	6,698,407	225,890,765	(243,820,897)
Total additions, net	**445,058,738**	**16,204,570**	**461,263,308**	**(35,246,260)**
Deductions				
Retired member benefits	256,886,490	12,230,165	269,116,655	261,801,340
DROP and DROP II benefits paid	15,612,129	—	15,612,129	39,502,980
Refunds of contributions	6,394,828	200,207	6,595,035	9,153,814
Administrative expenses	5,142,533	161,016	5,303,549	4,804,468
Total deductions	**284,035,980**	**12,591,388**	**296,627,368**	**315,262,602**
Change in fiduciary net position	161,022,758	3,613,182	164,635,940	(350,508,862)
Fiduciary net position held in trust for benefits				
Beginning of year	2,325,291,059	73,953,082	2,399,244,141	2,749,753,003
End of year	**$ 2,486,313,817**	**$ 77,566,264**	**$ 2,563,880,081**	**$ 2,399,244,141**

See **Notes to Financial Statements**

Note 1 Plan Description

The Denver Employees Retirement Plan (DERP) administers a cost-sharing multiple-employer defined benefit plan providing pension and post-employment health benefits to eligible members. We were established in 1963 by the City and County of Denver, Colorado. During 1996, the Denver Health and Hospital Authority (DHHA) was created and joined DERP as a contractual entity. In 2001, DERP became closed to new entrants from DHHA. All risks and costs are shared by the City and County of Denver (city) and DHHA. There is a single actuarial valuation performed annually that covers both the pension and post employment health benefits. Additional valuations are performed each year for each employer for funding purposes. All assets of DERP are funds held in trust by DERP for our members for the exclusive purpose of paying pension and post-employment health benefits.

Substantially all of the general employees of the city, certain employees of DHHA, and all employees of DERP are covered under DERP. The classified service employees of the Denver Police and Denver Fire Departments, and the employees of the Denver Water Board, are covered by separate retirement systems. At December 31, 2023, DERP membership consisted of the following:

	Pension Benefits	Health Benefits
Retirees and beneficiaries currently receiving benefits	11,087	7,110
Retirees and beneficiaries entitled to health benefits but not receiving any	—	3,978
Terminated employees entitled to benefits but not yet receiving them		
Vested	3,729	3,729
Non-vested	3,640	—
Current employees		
Vested	5,125	5,125
Non-vested	4,803	4,803
Total	**28,384**	**24,745**

The following brief description of DERP provided for general information purposes only. Sections 18-401 through 18-430.7 of the City's Revised Municipal Code should be referred to for complete details.

DERP provides retirement, death and disability benefits for its members and their beneficiaries. Members who were hired before September 1, 2004, and retire at or after age 65 (or at age 55 if the sum of their age and credited service is at least 75) are entitled to an annual retirement benefit, in an amount equal to 2.0% of their final average salary for each year of credited service, payable monthly for life. Effective for employees hired on or after September 1, 2004, the formula multiplier was reduced to 1.5%. Final average salary is based on the member's highest salary during a consecutive 36 month period of credited service. Members with five years of credited service may retire at or after age 55 and receive a reduced retirement benefit.

For members who were hired on or after July 1, 2011, they must be age 60 and have combined credited service and age of at least 85 in order to receive a normal retirement prior to age 65. Final average salary is based on the member's highest salary during a consecutive 60 month period of credited service. Five year vesting is required of all employees in order to qualify for a benefit, regardless of their age at the time of termination of employment.

Annual cost of living adjustments are granted on an ad hoc basis. The estimated cost of benefit and contribution provisions is determined annually by an independent actuary, recommended by DERP's Retirement Board, and enacted into ordinance by the Denver City Council.

The health benefits account was established by City Ordinance in 1991 to provide, beginning January 1, 1992, post-employment health care benefits in the form of a premium reduction to retired members, their spouses and dependents, spouses and dependents of deceased active and retired members, and members of DERP awaiting approval of retirement applications. During 2023, the monthly health insurance premium reduction was $12.50 per year of service for retired participants not yet eligible for Medicare, and $6.25 per year of service for retirees eligible for Medicare. The health insurance premium reduction can be applied to the payment of medical, dental, and/or vision insurance premiums. The benefit recipient pays any remaining portion of the premiums.

Note 2 Summary of Significant Accounting Policies

Reporting Entity

DERP has a separate legal standing and our fiscally independent of the city. However, based upon the criterion of financial accountability as defined by Governmental Accounting Standards Board (GASB) Statement No. 14, *The Financial Reporting Entity,* as amended, DERP is reported as a component unit of the city's financial reporting entity.

Basis of Accounting and Presentation

The accompanying financial statements are prepared in accordance with accounting principles generally accepted in the United States of America. DERP is accounted for using the economic resources measurement focus and the accrual basis of accounting. Employer/employee contributions and investment earnings are recognized in the period in which they are due and earned, respectively. Contributions that have been received prior to fiscal year end but not earned in the reporting period are reported as unearned contributions until the reporting period in which they are earned. Expenses are recognized when incurred. Benefits and refunds are recognized when due and payable.

DERP Expenses

DERP's Retirement Board acts as the trustee of our assets. The operating and other administrative expenses incurred by the retirement board, or its employees, in the performance of its duties as DERP's trustee are paid from the assets accumulated from contributions and investment earnings. Such expenses totaled $5,303,549 in 2023, and are reported as administrative expenses in the accompanying statement of changes in fiduciary net position.

Investments

DERP's investments are reported at fair value. The fair value of domestic stocks is based on prices reported by national exchanges. The fair value of international stocks and fixed income securities are based on prices obtained from an approved independent pricing service. Fair values of real estate, infrastructure, and alternative investments are valued using the net asset value (NAV) determined by independent periodic appraisals of properties owned and valuation of assets in the various investment funds. The absolute return fund-of-funds' investment fair value is based upon net asset values provided by the fund's third-party administrator. Short-term cash investments are recorded at amortized cost, which approximates fair value. Investment earnings are recognized as earned. Gains and losses on sales and exchanges of securities are recognized on the trade date.

For 2023, DERP realized net gain on the disposition of investments of $54,418,223. The calculation of realized gains and losses is independent of the calculation of the net appreciation (depreciation) in the fair value of DERP's investments and is determined using the weighted average cost method. Unrealized gains and losses on investments held for more than one year and sold in the current year were included in the net appreciation in the fair value of investments reported for 2023.

Investments of DERP shall be in accordance with all applicable laws of the State of Colorado and the City, specifically:

- Investments shall be solely in the interest of the participants and their beneficiaries and for the exclusive purpose of providing benefits to the participants and their beneficiaries.
- Investments shall be made with the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent investor acting in a like capacity and familiar with these matters would use in the conduct of an enterprise of a like character and with like aims.
- Investments shall be diversified to minimize the risk of loss and to maximize the rate of return, unless under the circumstances it is clearly prudent not to do so.

Capital Assets and Leases

Capital assets, which include land, building, furniture, and equipment, are recorded at acquisition value. DERP's capitalization threshold for capital assets is $5,000 of cost and a useful life in excess of one year. The costs of routine maintenance and repairs that do not add to the value of capital assets or materially extend assets' lives are not capitalized. Lease equipment is recorded when the term of a lease contract exceeds one year. At the commencement of a lease a right of use lease asset is recorded as the present value of future lease payments plus any installation costs. A corresponding payable is recorded at that time. The discount factor used in calculating the values is DERP's assumed rate of return. Depreciation on capital assets, excluding land, is calculated using the straight-line method over the following estimated useful lives:

Building	30 - 50 years
General office equipment and furniture	10 years
Internally generated computer software	15 years
Computer equipment	5 years
Lease equipment	Lease Term

Income Taxes

DERP's current determination letter issued by the Internal Revenue Service, dated February 27, 2014, qualifies DERP as a tax-exempt entity pursuant to Section 401(a) of the Internal Revenue Code. Earnings on the trust funds are exempt from federal income tax under Section 501(a) of the Internal Revenue Code.

Estimates Made by Management

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires DERP management to make certain estimates and assumptions that affect the reported amounts of assets, liabilities, and changes therein and disclosure of contingent assets and liabilities at the date of the financial statements. Actual results could differ from those estimates.

Prior-Year Summarized Totals

The basic financial statements include certain prior year summarized comparative information in total, but do not present detail for the pension or health benefits accounts. Such information does not include sufficient detail to constitute a presentation in conformity with accounting principles generally accepted in the United States of America. Accordingly, such information should be read in conjunction with DERP's audited financial statements for the year ended December 31, 2022, from which the summarized information was derived.

Current Economic Conditions

The current economic environment continues to present public employee benefit plans such as DERP with challenges that have resulted in substantial volatility in the fair value of investments. The accompanying financial statements have been prepared using values and information available to us as of the date of the financial statements. Due to the volatility of economic conditions, the values of assets recorded in the financial statements could change materially in the future.

New Accounting Standards

DERP reviewed the requirements of all new GASB pronouncements and their impact on our financial statements. For the fiscal year ended December 31, 2023, there was no material impact to DERP's financial statements resulting from the implementation of GASB standards.

Note 3 Contributions

DERP's funding policy provides for annual contributions at rates determined by an independent actuary recommended by our retirement board and enacted by city ordinance, which when expressed as a percentage of annual covered payroll, are sufficient to accumulate assets to pay benefits when due. During 2023, the actuarially determined contribution rates, expressed as a percentage of annual covered payroll, for the pension and health benefits were 25.04% and 1.06%, respectively, for a combined total of 26.10%. The city enacted Ordinance No. 1580-22 in 2022 to reset the combined total contribution rate to 26.40%, effective January 2023. In 2023, employers contributed a total of 17.95% of covered payroll and employees made a pre-tax contribution of 8.45% in accordance with Section 18-407 of the city's Revised Municipal Code. The employees' contribution was handled as a payroll deduction and was forwarded to DERP with the employers' contribution. During 2023, the employers contributed $153,099,371 for pension benefits and $6,485,052 for health benefits while the employees contributed a total of $72,767,009 for pension benefits and $3,021,111 for health benefits.

An actuarial valuation is performed annually by an independent actuarial consultant to determine that contributions are sufficient to provide funds for future benefits and to evaluate DERRP's funded status. For 2023, in accordance with the January 1, 2023, actuarially determined contribution requirements, the total required contribution was $219,190,000 ($70,140,000 of normal cost and $140,160,000 amortization of the unfunded actuarial accrued liability for pension benefits; $1,980,000 of normal cost and $6,910,000 amortization of the unfunded actuarial accrued liability for health benefits) based on a rate of 26.10% of projected payroll. The actual contribution was $233,984,930 using a rate of 26.40% of covered payroll, which when combined with the members' purchase of service credits of $1,387,613 discussed below, resulted in total contributions of $235,372,543. In accordance with a separate agreement between DHHA and DERP, DHHA made a supplemental contributions in the amount of $1,479,217, which is included in the total contributions amount.

During 2023, employee contributions totaled $75,788,120 and were allocated to pension and health benefits in the same manner as the employers' contributions. Regular employee contributions were not required or allowed between January 1, 1979, and September 30, 2003. City ordinance currently allows members to repay refunded contributions plus interest to reinstate service credits for periods prior to January 1, 1979. Any employee who made contributions after September 30, 2003, and was not vested upon leaving covered service could request a refund of those contributions. Eligible active members may also purchase permissive service credits in accordance with the Internal Revenue Code, which includes a maximum of five years of nonqualified service credits. Members paid $1,387,613 under these provisions during 2023.

Note 4 Deferred Retirement Option Plan (DROP)

Between January 1, 2001, and April 30, 2003, active members of DERP who were eligible for a normal or rule-of-75 retirement could choose to enter the Deferred Retirement Option Plan (DROP) for a maximum of four years. After April 30, 2003, no active member with an actual and effective date of retirement after May 1, 2003, could enter or participate in DROP. Under DROP, the member's monthly retirement benefit was calculated as of the date of DROP entry. While participating in DROP, the member continued to work for the employer, earning a regular salary. The monthly retirement benefits were deposited into a DROP account we maintain. The balance in each member's DROP account earns interest at a rate between 1% and 3% per annum set annually by the retirement board. During 2023, the DERP Retirement Board set the rate at 1% per annum. Sections 18-422 through 18-429 of the city's Revised Municipal Code should be referred to for more complete information on DROP. Upon retirement, members have access to the funds accumulated during their participation in DROP. During 2023, a total of $612,811 in interest was credited to members' DROP accounts. During 2023, a total of $14,908,849 was distributed from the DROP accounts to members who had retired and exited DROP. As of December 31, 2023, the reserve for DROP payments was $55,186,815.

Note 5 Amended Deferred Retirement Option Plan (DROP II)

Between May 1, 2003, and August 31, 2003, active members of DERP who were eligible for a normal or rule-of-75 retirement could choose to enter the Amended Deferred Retirement Option Plan (DROP II) for a maximum of five years. While participating in DROP II, the member continued to work for the employer, earning a regular salary. The member's monthly retirement benefits were deposited into a DROP II account maintained by DERP. The balance in each member's DROP II account earns interest at a rate between 1% and 3% per annum set annually by the DERP Retirement Board. During 2023, the retirement board set the rate at 1% per annum. Sections 18-430 through 18-430.7 of the city's Revised Municipal Code should be referred to for more complete information on DROP II. Upon exiting DROP II, members have access to the funds accumulated during their participation in DROP II. A total of $39,235 in interest was credited to members' DROP II accounts during 2023. Also during 2023, a total of $703,550 was distributed to members who had exited DROP II. As of December 31, 2023, the reserve for DROP II payments was $3,543,910.

Note 6 Deposits and Investments

It is the objective of DERP in managing the trust as a whole to provide a net realized nominal rate of return meeting or exceeding the actuarial assumption of 7.0% annualized, over a full market/economic cycle of three to seven years. The relative investment objective of DERP is to exceed the rate of return that would have been achieved by a statically allocated and passively managed portfolio, at the same risk, in accordance with a long-term asset allocation strategy of the following approximate percentages:

	Long-term Target	Policy Range
Public Equity	44.0 %	36.0 % - 48.0 %
Fixed Income	23.5 %	20.5 % - 30.5 %
Real Estate	10.0 %	5.0 % - 15.0 %
Absolute Return	7.0 %	3.0 % - 9.0 %
Infrastructure	3.0 %	— % - 5.0 %
Alternatives	12.5 %	
Total Fund	**100.0 %**	

Note 6 Deposits and Investments (continued)

Investment Performance

For the year ended December 31, 2023, the money-weighted rate of return on the investment assets was 9.97%, net of fees.

The calculation of money-weighted returns is provided as an alternative to the more traditional time-weighted calculation of return, which appears elsewhere in this document. Money-weighted rate of return expresses investment performance, net of pension/OPEB plan investment expenses, adjusted for the changing amounts actually invested. Money-weighted methodology takes into consideration the amount and timing of cash flows in determining a net amount invested in each period. Since the net amount invested in our investment portfolio does not fluctuate greatly, there is little difference in the results provided by the two methodologies, particularly over longer periods.

Fair Value Measurement

DERP categorizes fair value measurements within the fair value hierarchy established by GAAP. The hierarchy is based on the valuation inputs used to measure the fair value of the asset and gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements).

Level 1 Unadjusted quoted prices for identical instruments in active markets.

Level 2 Quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and model-derived valuations in which all significant inputs are observable.

Level 3 Valuations derived from valuation techniques in which significant inputs are unobservable.

Investments that are measured at fair value using the net asset value (NAV) per share (or its equivalent) as a proxy are not classified in the fair value hierarchy.

In instances where inputs used to measure fair value fall into different levels in the fair value hierarchy, fair value measurements in their entirety are categorized based on the lowest level input that is significant to the valuation.

DERP's assessment of the significance of particular inputs to these fair value measurements requires judgment and considers factors specific to each asset or liability. The tables on the following pages show the classification by fair value level of the investments for DERP.

Short-term securities generally include investments in money market-type securities reported at amortized cost, which approximates market or fair value.

Equities and U.S. Treasuries within all asset classes that are classified in Level 1 are valued using prices quoted in active markets for those securities. Equity and equity derivative securities classified in Level 2 are securities whose values are derived daily from associated traded securities. DERP currently does not maintain equity securities classified as Level 3.

Fixed income securities and derivatives within all asset classes that are classified in Level 2 are valued using either a bid evaluation or a matrix pricing technique. Bid evaluations may include market quotations, yields, maturities, call features, and ratings. Matrix pricing is used to value securities based on the securities' relationship to benchmark quoted prices. Such securities include U.S. Treasuries, corporate and agency bonds, bank loans, and mortgage-backed securities. Level 2 fixed income securities have non-proprietary information that was readily available to market participants, from multiple independent sources, which are known to be actively involved in the market. DERP currently does not maintain fixed income securities classified as Level 3.

Note 6 Deposits and Investments (continued)

Investments by fair value level	Totals at December 31, 2023	Fair Value Measurements Using: Quoted Prices in Active Markets for Identical Assets Level 1	Significant Other Observable Inputs Level 2	Significant Unobservable Inputs Level 3
U.S. Government Obligations				
Treasuries	$ 233,306,064	$ 233,306,064	$ —	$ —
Agencies	62,610,345	—	62,610,345	—
Total U.S. Government Obligations	**295,916,409**	**233,306,064**	**62,610,345**	**—**
Domestic corporate bonds and other fixed income				
Asset Backed & Corporate Bonds	31,281	—	31,281	—
Index fund	64,862,137	—	64,862,137	—
Total Domestic corporate bonds and other fixed income	**64,893,418**	**—**	**64,893,418**	**—**
Domestic stocks				
Equities	262,455,274	262,455,274	—	—
Index fund	248,037,155	248,037,155	—	—
Total Domestic stocks	**510,492,429**	**510,492,429**	**—**	**—**
International stocks				
Equity funds	458,169,733	458,169,733	—	—
Index fund	75,740,221	75,740,221		
Total International stocks	**533,909,954**	**533,909,954**	**—**	**—**
Total Investment by fair value level	**1,405,212,210**	**$ 1,277,708,447**	**$ 127,503,763**	**$ —**
Total Investments measured at the NAV (See detailed schedule on the following page)	1,091,005,413			
Total Investments	2,496,217,623			
Total Short-term Investments measured at amortized cost	29,154,018			
Total Investments measured at fair value	**$ 2,525,371,641**			
Total Invested securities lending collateral	**$ 171,427,434**	—	171,427,434	—

Note 6 Deposits and Investments (continued)

Investments measured at the NAV	Totals at December 31, 2023	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Fixed Income Investments				
Private Debt	$ 184,126,425	$ 64,619,490	Not Eligible	N/A
Emerging Market Debt	53,920,512	—	Monthly	3 Days
Total Fixed Income Investments	**238,046,937**	**64,619,490**		
Real Estate Investments				
Real Estate - Open end	162,391,326	—	Quarterly	20-90 Days
Real Estate - Closed end	29,443,574	33,809,290	Not Eligible	N/A
Total Real Estate Investments	**191,834,900**	**33,809,290**		
Alternative Investments				
Private Equity	275,270,322	55,776,810	Not Eligible	N/A
Energy Investments	101,210,482	21,737,808	Not Eligible	N/A
Timber	41,309,871	—	Not Eligible	N/A
Total Alternative Investments	**417,790,675**	**77,514,618**		
Absolute Return				
Hedge Fund	171,236,709	—	Quarterly	65 Days
Total Absolute Return	**171,236,709**	**—**		
Infrastructure				
Infrastructure	72,096,192	—	Quarterly	90 Days
Total Infrastructure	**72,096,192**	**—**		
Total Investments measured at the NAV	**$ 1,091,005,413**	**$ 175,943,398**		

Fixed Income Investments

Private debt investments are intended to generate returns by lending money to various businesses and enterprises, or by purchasing loans originated by other lenders. Commingled investment pools are used, each taking the form of a partnership or similar structure. The debt may be secured or unsecured, and various yield enhancing techniques may be used such as royalty sharing, equity options, or the application of leverage. Liquidity of these closed-end funds is determined by the monetization of underlying investments, and subject to reinvestment terms.

Investments in emerging market debt seek to purchase the publicly traded sovereign or corporate debt obligations of developing nations.

Real Estate Investments

Open end real estate investments are pooled investments that own and operate commercial property. Returns are generated from income and price appreciation. These funds have perpetual life, and periodically accept contributions or honor redemptions.

Closed end real estate investments consist of pooled funds to own and operate commercial property. These funds have a finite life, and funds are returned as investments are liquidated.

Note 6 Deposits and Investments (continued)

Alternative Investments

Private equity utilizes a fund of funds approach to make investments in venture capital, buyouts, and other corporate finance transactions.

Energy investments are a diversified portfolio of energy assets, including interests in oil, natural gas, power generation, and renewables.

Timber investments are made in both domestic and international timberland. Returns are generated through the acquisition, management, harvesting, and sale of timber.

Liquidity of these closed-end funds is determined by the monetization of underlying investments, and subject to reinvestment terms.

Absolute Return Investments

A portfolio of hedge funds is intended to generate returns that are higher than core fixed income, with significantly lower risk than public equities. A multi-strategy approach is used to improve consistency of returns while limiting downside risk.

Infrastructure Investments

DERP invests in funds that own and operate infrastructure assets such as utilities, toll roads, pipelines, and airports. Returns are generated thorough the cash flow produced by the normal business operations of the assets. As open-ended funds, these have infinite life and periodically accept contributions or honor redemptions.

Credit Risk

To mitigate the risk that issuers or other counterparties to an investment will not fulfill their obligations, DERP manages credit risk through the constraints on investments specified in each manager's investment guidelines included in their respective investment policy. Securities implicitly guaranteed by the U.S. Government are included.

The following table provides information regarding Standard & Poor's (S&P) and Moody's credit ratings associated with DERP's investment in debt securities as of December 31, 2023:

S&P	Moody's	Asset Backed	Corporate	Implicit U.S. Agency Securities	Total
AAA	NR	$ —	$ 2,568,541	$ —	$ 2,568,541
AA+ to AA-	Aa3 to A1	—	46,927,756	62,610,345	109,538,101
A+ to A-	A1 to Baa2	—	8,328,298	—	8,328,298
BBB+ to BBB-	A3 to Baa3	—	7,037,542	—	7,037,542
CC+ to CC-	Ca	28,418	—	—	28,418
NR	NR	—	$ 2,863	—	2,863
		$ 28,418	**$ 64,865,000**	**$ 62,610,345**	127,503,763
U.S. Treasury Securities					233,306,064
Non-rated Funds					238,046,937
Total					**$598,856,764**

NR - no rating available.

Non-rated Funds are investments held in various funds, which are not rated, and not in specific securities.

Note 6 Deposits and Investments (continued)

Concentration of Credit Risk

DERP is potentially exposed to credit risk concentrations from a single issuer. Certain fixed income managers are constrained in concentration of credit exposure. As of December 31, 2023, DERP had no exposure to any single issuer exceeding 1% of total plan assets.

Custodial Credit Risk

In the event of a failure of a financial institution or counterparty, custodial credit risk is the risk that DERP would not be able to recover its deposits, investments, or collateral securities in the possession of an outside party. DERP has no formal policy for custodial credit risk for deposits and investments. At December 31, 2023, DERP's cash deposits were collateralized in the amount of $250,000 with the remaining $25,349,633 not collateralized.

Interest Rate Risk

Interest rate risk is the risk that changes in financial market rates of interest will adversely affect the value of an investment. DERP manages its exposure to changing interest rates by making allocations to variable-rate debt instruments, which have no interest rate sensitivity, and by limiting its target allocation to fixed-rate securities. Both allocations are set by the investment policy. The investment policy further constrains the duration (a measure of interest rate risk) of the fixed-rate allocation to prudent levels. At December 31, 2023, DERP's fixed income investments had the following maturities by investment type:

Investment Type	Fair Value	Less than 1 Year	1-5 Years	6-10 Years	More than 10 Years
U.S. Treasury securities	$ 233,306,064	$ 35,838,368	$ 197,467,643	$ —	$ 53
U.S. agency securities	62,610,345	11,437,950	35,277,455	15,894,940	—
Asset backed	28,418	—	—	—	28,418
Corporate	64,865,000	702,816	64,161,626	—	558
Total	**360,809,827**	**$ 47,979,134**	**$ 296,906,724**	**$ 15,894,940**	**$ 29,029**
Non-rated Funds	238,046,937				
Total	**$ 598,856,764**				

Non-rated Funds are investments held in various funds, which are not rated, and not in specific securities.

Note 6 Deposits and Investments (continued)

Foreign Currency Risk

Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment or deposit. The DERP Investment Policy allows 17.0% to 27.0% of total investments to be invested in international equities. Our investment policy allows 1.0% to 4.0% of total investments to be invested in international fixed income. The following positions represent DERP's total exposure to foreign currency risk (in U.S. Dollars) as of December 31, 2023:

Foreign Currency	Equities	Fixed Income	Total
Euro	$ 109,497,879	$ —	$ 109,497,879
Japanese Yen	50,046,377	—	50,046,377
British Pound Sterling	42,510,749	—	42,510,749
Chinese Yuan	40,328,663	—	40,328,663
Indian Rupee	38,123,435	—	38,123,435
South Korean Won	32,049,543	3,429,345	35,478,888
Swiss Franc	34,262,106	—	34,262,106
Taiwan Dollar	31,809,763	—	31,809,763
Brazilian Real	15,677,367	7,559,656	23,237,023
Canadian Dollar	18,001,927	—	18,001,927
Hong Kong Dollar	17,864,958	—	17,864,958
Mexican Peso	7,543,054	8,346,895	15,889,949
Danish Krone	13,252,744	—	13,252,744
South African Rand	6,689,435	4,151,880	10,841,315
Polish Zloty	2,276,405	6,869,473	9,145,878
Malaysian Ringgit	2,361,097	6,750,848	9,111,945
Swedish Krona	8,318,427	—	8,318,427
Australian Dollar	8,258,738	—	8,258,738
Hungary Forint	2,356,279	4,421,482	6,777,761
Thai Bhat	4,772,462	744,103	5,516,565
Indonesia Rupiah	3,933,787	1,525,951	5,459,738
Columbian Peso	339,464	4,647,948	4,987,412
Saudia Riyal	4,572,778	—	4,572,778
Chilean Peso	858,644	3,062,685	3,921,329
New Israeli Shekel	3,559,024	—	3,559,024
Singapore Dollar	2,915,518	—	2,915,518
Turkey	2,795,585	—	2,795,585
United Arab Emirati Dirham	2,765,284	—	2,765,284
Argentine Peso	2,246,244	—	2,246,244
Peruvian Sol	1,293,115	690,183	1,983,298
Philippine Peso	—	1,590,655	1,590,655
Qatari Riyal	1,337,887	—	1,337,887
Norwegian Krone	748,359	—	748,359
Egyptian Pound	419,338	—	419,338
New Zealand Dollar	291,222	—	291,222
Czech Koruna	—	43,136	43,136
Kuwaiti Dinar	778,770	—	778,770
Other	9,280,325	—	9,280,325
Total	**$ 524,136,752**	**$ 53,834,240**	**$ 577,970,992**

Note 7 Securities Lending Transactions

The investment policy permits DERP to participate in a securities lending program to augment income. The program is administered by DERP's custodial agent bank, which lends certain securities for a predetermined period of time, to an independent broker/dealer (borrower) in exchange for collateral. Collateral may be cash, U.S. government securities, or other collateral approved by DERP. Loans of domestic securities are initially collateralized at 102% of the fair value of securities lent. Loans of international securities are initially collateralized at 105% of the fair value of securities lent. The custodial agent bank determines daily that collateral margins are sufficiently maintained. We continue to receive interest and dividends during the loan period. There are no restrictions on the amount of securities that can be lent at one time. At December 31, 2023, the fair value of underlying securities lent was $162,808,948. The fair value of associated collateral was $171,427,434; of this amount, $61,700,970 represents the fair value of cash collateral as reported on the financial statements and $109,726,464 is the fair value of non-cash collateral not reported on the financial statements. The securities loaned are priced daily by third-party sources, and margins are delivered/received daily to maintain over-collateralized levels. Securities on loan can be recalled or returned by DERP or the borrower at any time. Since loans are terminable at will, loan durations do not generally match the duration of the investments made with the cash collateral. We had no credit risk exposure at December 31, 2023, since the collateral held exceeds the value of securities lent. The custodial agent bank indemnifies DERP in the event of a collateral shortfall.

DERP reports securities loaned as assets on the Statement of Plan Net Position. Cash received as collateral on securities lending transactions and investments made with that cash are recorded as an asset and liability. Investments purchased with cash collateral are recorded as Securities Lending Collateral with a corresponding liability as Securities Lending Obligations.

Note 8 Capital Assets

Our capital assets activity for the year ended December 31, 2023, was as follows:

	January 1	Additions	Deletions	December 31
Capital assets, not being depreciated				
Land	$ 430,041	$ —	$ —	$ 430,041
Capital assets, being depreciated				
Building	1,136,014	—	—	1,136,014
Furniture and equipment	6,138,492	31,224	(408,224)	5,761,492
Lease equipment	52,189	25,197	(23,132)	54,254
Total capital assets, being depreciated	**7,326,695**	**56,421**	**(431,356)**	**6,951,760**
Accumulated depreciation				
Building	(1,136,014)	—	—	(1,136,014)
Furniture and equipment	(4,636,761)	(383,460)	324,961	(4,695,260)
Lease equipment	(33,718)	(10,713)	23,132	(21,299)
Total accumulated depreciation	**(5,806,493)**	**(394,173)**	**348,093**	**(5,852,573)**
Total capital assets being depreciated, net	**1,520,202**	**(337,752)**	**(83,263)**	**1,099,187**
Capital assets, net	**$ 1,950,243**	**$ (337,752)**	**$ (83,263)**	**$ 1,529,228**

The 2023 depreciation expense for the pension and health benefit accounts was $378,170 and $16,003 respectively.

Note 9 Commitments and Contingencies

As of December 31, 2023, DERP had commitments for the future purchase of investments in private debt of $64,619,490, real estate of $33,809,290, and alternative investments of $77,514,618. The purpose of such commitments is to assist DERP in maintaining the designated level of exposure to these asset classes. The anticipated pace of funding the commitments coincides with the expected distribution rate of invested assets.

Note 10 Net Pension Liability of Employers

The components of the net pension liability of the employers at December 31, 2023, were as follows:

Total pension liability	$ 4,278,538,377
Plan fiduciary net position	2,486,313,817
Net pension liability	**$ 1,792,224,560**
Plan fiduciary net position as a percentage of the total pension liability	58.11 %

Actuarial Assumptions

The total pension liability was determined by an actuarial valuation as of January 1, 2023 rolled forward to a measurement date of December 31, 2023, using the following actuarial assumptions, applied to all prior periods included in the measurement:

Inflation	2.50%
Salary Increases	3.00% plus merit component based on years of service
Investment Rate of Return	7.00%

The actuarial valuation as of January 1, 2023 was rolled forward using a 7.00% discount rate to reflect the rate adopted during the measurement period.

The mortality tables were based on the Sex Distinct RP-2014 Healthy Annuitant Mortality Tables with a 110% multiplier applied to males and a 105% multiplier applied to females, with generational projection using scale MP-2021.

The actuarial assumptions used in the January 1, 2023 valuation were based on the results of an actuarial experience study as of January 1, 2023.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of geometric real rates of return were adopted by DERP's trustees after considering input from our investment consultant and actuary. For each major asset class that is included in the pension plan’s target asset allocation as of December 31, 2023 these best estimates are summarized in the table on the following page.

Note 10 Net Pension Liability of Employers (continued)

Asset Class	Target Allocation	Long-Term Expected Rate of Return
Public Equity	**44.0 %**	
US Equity		
US Large Cap	18.0 %	7.8 %
US Small Cap	4.0 %	8.7 %
International Equity		
Developed Markets	14.0 %	10.1 %
Emerging Markets	8.0 %	10.3 %
Fixed Income	**23.5 %**	
Core Fixed Income	15.0 %	4.8 %
Private Debt		
Private Debt	4.0 %	8.5 %
Distressed Debt	2.5 %	10.8 %
Emerging Market Debt	2.0 %	6.4 %
Real Estate	**10.0 %**	**4.3 %**
Absolute Return	**7.0 %**	**5.4 %**
Infrastructure	**3.0 %**	**7.8 %**
Alternatives	**12.5 %**	
Private Equity	9.0 %	9.7 %
Natural Resources	3.5 %	9.8 %
Total	**100.0 %**	

A single discount rate of 7.00% was used to measure the total pension liability. This single discount rate was based on the expected rate of return on pension plan investments of 7.00%. The projection of cash flows used to determine this single rate assumed that DERP member and employer contributions will be made at the current contribution rate. Based on these assumptions, the pension plan’s fiduciary net position was projected to be available to make all projected future benefit payments of current DERP members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Regarding the sensitivity of the net pension liability to changes in the single discount rate, the following presents our net pension liability, calculated using a single discount rate of 7.00%, as well as what DERP's net pension liability would be if it were calculated using a single discount rate that is 1-percentage point lower or 1-percentage point higher:

	1% Decrease 6.00%	Current Single Discount Rate Assumption 7.00%	1% Increase 8.00%
Net Pension Liability	$ 2,268,765,890	$ 1,792,224,560	$ 1,392,168,137

Note 11 Net Other Post-Employment Benefits (OPEB) Liability of Employers

The components of the net OPEB liability of the employers at December 31, 2023, were as follows:

Total OPEB liability	$ 160,220,097
Plan fiduciary net position	77,566,264
Net OPEB liability	**$ 82,653,833**
Plan fiduciary net position as a percentage of the total pension liability	48.41 %

Actuarial Assumptions

The total OPEB liability was determined by an actuarial valuation as of January 1, 2023 rolled forward to a measurement date of December 31, 2023, using the following actuarial assumptions, applied to all prior periods included in the measurement:

Inflation	2.50%
Salary Increases	3.00% plus merit component based on years of service
Investment Rate of Return	7.00%

The actuarial valuation as of January 1, 2023 was rolled forward using a 7.00% discount rate to reflect the rate adopted during the measurement period.

The mortality tables were based on the Sex Distinct RP-2014 Healthy Annuitant Mortality Tables with a 110% multiplier applied to males and a 105% multiplier applied to females, with generational projection using scale MP-2021.

The actuarial assumptions used in the January 1, 2023 valuation were based on the results of an actuarial experience study as of January 1, 2023.

The long-term expected rate of return on OPEB plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of OPEB plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of geometric real rates of return were adopted by DERP's trustees after considering input from DERP's investment consultant and actuary. For each major asset class that is included in the OPEB plan's target asset allocation as of December 31, 2023 these best estimates are summarized in the table on the following page.

Note 11 Net Other Post-Employment Benefits (OPEB) Liability of Employers (continued)

Asset Class	Target Allocation	Long-Term Expected Rate of Return
Public Equity	**44.0 %**	
US Equity		
US Large Cap	18.0 %	7.8 %
US Small Cap	4.0 %	8.7 %
International Equity		
Developed Markets	14.0 %	10.1 %
Emerging Markets	8.0 %	10.3 %
Fixed Income	**23.5 %**	
Core Fixed Income	15.0 %	4.8 %
Private Debt		
Private Debt	4.0 %	8.5 %
Distressed Debt	2.5 %	10.8 %
Emerging Market Debt	2.0 %	6.4 %
Real Estate	**10.0 %**	**4.3 %**
Absolute Return	**7.0 %**	**5.4 %**
Infrastructure	**3.0 %**	**7.8 %**
Alternatives	**12.5 %**	
Private Equity	9.0 %	9.7 %
Natural Resources	3.5 %	9.8 %
Total	**100.0 %**	

A single discount rate of 7.00% was used to measure the total OPEB liability. This single discount rate was based on the expected rate of return on OPEB plan investments of 7.00%. The projection of cash flows used to determine this single rate assumed that DERP member and employer contributions will be made at the current contribution rate. Based on these assumptions, the OPEB plan's fiduciary net position was projected to be available to make all projected future benefit payments of current DERP members. Therefore, the long-term expected rate of return on OPEB plan investments was applied to all periods of projected benefit payments to determine the total OPEB liability.

The OPEB Plan is not impacted by healthcare cost trends because the benefit is a flat dollar amount, independent of healthcare costs. Regarding the sensitivity of the net OPEB liability to changes in the single discount rate, the following presents our net OPEB liability, calculated using a single discount rate of 7.00%, as well as what our net OPEB liability would be if it were calculated using a single discount rate that is 1-percentage point lower or 1-percentage point higher:

	1% Decrease 6.00%	Current Single Discount Rate Assumption 7.00%	1% Increase 8.00%
Net OPEB Liability	$ 98,337,639	$ 82,653,833	$ 69,306,803

Schedule of Changes in Net Pension Liability and Related Ratios

Fiscal year ending December 31,	2023	2022	2021
Total Pension Liability			
Service Cost (Entry-Age Normal)	$ 67,780,630	$ 59,744,765	$ 59,681,949
Interest on the Total Pension Liability	286,639,965	283,177,978	277,172,303
Benefit Changes	—	—	—
Difference between Expected and Actual Experience	100,479,821	(10,745,999)	26,207,643
Transition to Entry-Age Normal (1)	—	—	—
Assumption/Method Changes (2)(3)(4)(5)	45,167,158	—	—
Benefit Payments	(278,893,447)	(297,526,219)	(263,579,421)
Net Change in Total Pension Liability	**221,174,127**	**34,650,525**	**99,482,474**
Total Pension Liability - Beginning	4,057,364,250	4,022,713,725	3,923,231,251
Total Pension Liability - Ending (a)	**$ 4,278,538,377**	**$ 4,057,364,250**	**$ 4,022,713,725**
Plan Fiduciary Net Position			
Employer Contributions	$ 153,099,371	$ 129,691,985	$ 110,464,999
Employee Contributions	72,767,009	69,032,726	62,604,568
Pension Plan Net Investment Income	219,192,358	(236,295,665)	393,528,946
Benefit Payments	(278,893,447)	(297,526,219)	(263,579,421)
Pension Plan Administrative Expense	(5,142,533)	(4,657,712)	(4,657,946)
Other Income	—	—	—
Net Change in Plan Fiduciary Net Position	**161,022,758**	**(339,754,885)**	**298,361,146**
Total Fiduciary Net Position - Beginning	2,325,291,059	2,665,045,944	2,366,684,798
Total Fiduciary Net Position - Ending (b)	**$ 2,486,313,817**	**$ 2,325,291,059**	**$ 2,665,045,944**
Net Pension Liability - Ending (a)-(b)	**$ 1,792,224,560**	**$ 1,732,073,191**	**$ 1,357,667,781**
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	**58.11 %**	**57.31 %**	**66.25 %**
Covered Payroll	$ 880,992,608	$ 810,106,752	$ 710,975,688
Net Pension Liability as a Percentage of Covered Payroll	**203.43 %**	**213.81 %**	**190.96 %**

(1) Transition liability is the additional liability due to the transition from the Projected Unit Credit to Entry-Age Normal actuarial cost method.
(2) As of October 1, 2015, the valuation interest rate was lowered from 8.00% to 7.75%.
(3) As of October 1, 2017, the valuation interest rate was lowered from 7.75% to 7.50%.
(4) As of October 1, 2020, the valuation interest rate was lowered from 7.50% to 7.25%.
(5) As of October 1, 2023, the valuation interest rate was lowered from 7.25% to 7.00%.

2020	2019	2018	2017	2016	2015	2014
$ 58,953,668	$ 56,355,775	$ 49,796,219	$ 49,158,616	$ 46,577,860	$ 46,419,739	$ 42,793,142
271,949,654	261,392,243	248,598,306	241,977,403	237,104,293	229,130,437	221,367,921
—	—	—	—	—	—	—
19,741,953	56,265,688	13,946,045	14,324,507	16,967,117	29,122,513	—
—	—	—	—	—	—	140,652,205
96,394,671	—	80,783,495	69,289,533	—	73,157,470	—
(237,428,009)	(231,722,495)	(220,006,730)	(207,612,390)	(194,541,616)	(183,992,079)	(172,686,029)
209,611,937	**142,291,211**	**173,117,335**	**167,137,669**	**106,107,654**	**193,838,080**	**232,127,239**
3,713,619,314	**3,571,328,103**	**3,398,210,768**	**3,231,073,099**	**3,124,965,445**	**2,931,127,365**	**2,699,000,126**
$3,923,231,251	**$3,713,619,314**	**$3,571,328,103**	**$3,398,210,768**	**$3,231,073,099**	**$3,124,965,445**	**$2,931,127,365**
$ 105,863,173	$ 87,464,822	$ 81,719,744	$ 71,731,309	$ 68,794,871	$ 67,234,597	$ 59,941,041
63,816,511	60,074,876	52,700,679	50,599,952	48,037,800	46,689,696	39,521,451
180,417,579	284,110,225	(73,146,389)	302,942,063	147,443,477	(35,746,029)	101,595,704
(237,428,009)	(231,722,495)	(220,006,730)	(207,612,390)	(194,541,616)	(183,992,079)	(172,686,029)
(4,465,837)	(4,123,494)	(4,016,288)	(3,899,901)	(3,742,451)	(3,785,416)	(3,638,296)
—	—	—	—	—	—	—
108,203,417	**195,803,934**	**(162,748,984)**	**213,761,033**	**65,992,081**	**(109,599,231)**	**24,733,871**
2,258,481,381	**2,062,677,447**	**2,225,426,431**	**2,011,665,398**	**1,945,673,317**	**2,055,272,548**	**2,030,538,677**
$2,366,684,798	**$2,258,481,381**	**$2,062,677,447**	**$2,225,426,431**	**$2,011,665,398**	**$1,945,673,317**	**$2,055,272,548**
$1,556,546,453	**$1,455,137,933**	**$1,508,650,656**	**$1,172,784,337**	**$1,219,407,701**	**$1,179,292,128**	**$ 875,854,817**
60.32 %	**60.82 %**	**57.76 %**	**65.49 %**	**62.26 %**	**62.26 %**	**70.12 %**
$ 713,566,300	$ 706,441,299	$ 671,120,225	$ 636,738,387	$ 613,284,274	$ 602,454,420	$ 554,103,740
218.14 %	**205.98 %**	**224.80 %**	**184.19 %**	**198.83 %**	**195.75 %**	**158.07 %**

Schedule of Changes in Net OPEB Liability and Related Ratios

(Ultimately 10 Fiscal Years will be displayed)

Fiscal year ending December 31,	2023	2022
Total OPEB Liability		
Service Cost (Entry-Age Normal)	$ 1,984,956	$ 1,968,952
Interest on the Total OPEB Liability	11,665,219	11,982,513
Benefit Changes	—	—
Difference between Expected and Actual Experience	(3,947,557)	(5,650,270)
Transition to Entry-Age Normal	(3,083,051)	—
Assumption/Method Changes	—	—
Benefit Payments	(12,430,372)	(12,931,915)
Net Change in Total OPEB Liability	**(5,810,805)**	**(4,630,720)**
Total OPEB Liability - Beginning	166,030,902	170,661,622
Total OPEB Liability - Ending (a)	**$ 160,220,097**	**$ 166,030,902**
Plan Fiduciary Net Position		
Employer Contributions	6,485,052	6,453,727
Employee Contributions	3,021,111	3,396,199
OPEB Plan Net Investment Income	6,698,407	(7,525,232)
Benefit Payments, Including Refunds of Employee Contributions	(12,430,372)	(12,931,915)
OPEB Plan Administrative Expense	(161,016)	(146,756)
Other	—	—
Net Change in Plan Fiduciary Net Position	**3,613,182**	**(10,753,977)**
Total Fiduciary Net Position - Beginning	73,953,082	84,707,059
Total Fiduciary Net Position - Ending (b)	**$ 77,566,264**	**$ 73,953,082**
Net OPEB Liability - Ending (a)-(b)	**$ 82,653,833**	**$ 92,077,820**
Plan Fiduciary Net Position as a Percentage of Total OPEB Liability	**48.41 %**	**44.54 %**
Covered Payroll	$ 880,922,608	$ 810,106,752
Net OPEB Liability as a Percentage of Covered Payroll	**9.38 %**	**11.37 %**

2021	2020	2019	2018	2017
$ 2,022,136	$ 2,060,169	$ 2,073,228	$ 1,932,881	$ 2,103,783
12,075,413	12,345,681	12,489,835	11,796,771	11,700,994
—	—	—	—	—
(2,265,610)	(3,134,783)	(3,352,740)	627,097	—
—	—	—	—	—
—	3,881,572	—	7,900,882	—
(13,237,127)	(13,129,533)	(13,122,521)	(13,050,165)	(13,171,022)
(1,405,188)	**2,023,106**	**(1,912,198)**	**9,207,466**	**633,755**
172,066,810	**170,043,704**	**171,955,902**	**162,748,436**	**162,114,681**
$ 170,661,622	**$ 172,066,810**	**$ 170,043,704**	**$ 171,955,902**	**$ 162,748,436**
6,805,263	6,870,452	5,084,799	4,952,754	4,367,474
3,820,520	4,029,080	3,310,427	3,132,783	3,005,989
12,459,534	5,687,452	9,185,163	(2,364,015)	10,422,137
(13,237,127)	(13,129,533)	(13,122,521)	(13,050,165)	(13,171,022)
(147,406)	(141,397)	(133,008)	(133,128)	(133,959)
—	—	—	—	—
9,700,784	**3,316,054**	**4,324,860**	**(7,461,771)**	**4,490,619**
75,006,275	**71,690,221**	**67,365,361**	**74,827,132**	**70,336,513**
$ 84,707,059	**$ 75,006,275**	**$ 71,690,221**	**$ 67,365,361**	**$ 74,827,132**
$ 85,954,563	**$ 97,060,535**	**$ 98,353,483**	**$ 104,590,541**	**$ 87,921,304**
49.63 %	**43.59 %**	**42.16 %**	**39.18 %**	**45.98 %**
$ 710,975,688	$ 713,566,300	$ 706,441,299	$ 671,120,225	$ 636,738,387
12.09 %	**13.60 %**	**13.92 %**	**15.58 %**	**13.81 %**

Schedule of the Net Pension Liability

Fiscal Year Ending December 31,	Total Pension Liability	Plan Net Position	Net Pension Liability	Plan Net Position as a % of Total Pension Liability	Covered Payroll	Net Pension Liability as a % of Covered Payroll
2014	$2,931,127,365	$2,055,272,548	$ 875,854,817	70.12 %	$ 554,103,740	158.07 %
2015	3,124,965,445	1,945,673,317	1,179,292,128	62.26 %	602,454,420	195.75 %
2016	3,231,073,099	2,011,665,398	1,219,407,701	62.26 %	613,284,274	198.83 %
2017	3,398,210,768	2,225,426,431	1,172,784,337	65.49 %	636,738,387	184.19 %
2018	3,571,328,103	2,062,677,477	1,508,650,626	57.76 %	671,120,225	224.80 %
2019	3,713,619,314	2,258,481,381	1,455,137,933	60.82 %	706,441,299	205.98 %
2020	3,923,231,251	2,366,684,798	1,556,546,453	60.32 %	713,566,300	218.14 %
2021	4,022,713,725	2,665,045,944	1,357,667,781	66.25 %	710,975,688	190.96 %
2022	4,057,364,250	2,325,291,059	1,732,073,191	57.31 %	810,106,752	213.81 %
2023	4,278,538,377	2,486,313,817	1,792,224,560	58.11 %	880,922,608	203.45 %

Schedule of the Net OPEB Liability

(Ultimately 10 Fiscal Years will be displayed)

Fiscal Year Ending December 31,	Total Pension Liability	Plan Net Position	Net Pension Liability	Plan Net Position as a % of Total Pension Liability	Covered Payroll	Net Pension Liability as a % of Covered Payroll
2017	$ 162,748,436	$ 74,827,132	87,921,304	45.98 %	$ 636,738,387	13.81 %
2018	171,955,902	67,365,361	104,590,541	39.18 %	671,120,225	15.58 %
2019	170,043,704	71,690,221	98,353,483	42.16 %	706,441,299	13.92 %
2020	172,066,810	75,006,275	97,060,535	43.59 %	713,566,300	13.60 %
2021	170,661,622	84,707,059	85,954,563	49.63 %	710,975,688	12.09 %
2022	166,030,902	73,953,082	92,077,820	44.54 %	810,106,752	11.37 %
2023	160,220,097	77,566,264	82,653,833	48.41 %	880,922,608	9.38 %

Schedules of Employer Contributions

Pension Benefit

Fiscal Year Ending December 31,	Actuarially Determined Contributions (a)	Actual Contributions (b)	Contribution Deficiency (Excess) (a)-(b)	Covered Payroll (c)	Actual Contribution as a % of Covered Payroll (b)/(c)
2014	$ 55,871,677	$ 59,941,041	$ (4,069,364)	$ 519,003,905	11.55 %
2015	59,811,786	67,234,597	(7,422,811)	545,955,845	12.32 %
2016	66,135,502	68,794,871	(2,659,369)	563,316,210	12.21 %
2017	76,859,156	71,731,309	5,127,847	636,738,387	11.27 %
2018	82,818,225	81,719,744	1,098,481	671,120,225	12.18 %
2019	106,297,687	87,464,822	18,832,865	706,441,299	12.38 %
2020	102,905,472	105,863,173	(2,957,701)	713,566,300	14.84 %
2021	113,775,803	110,464,999	3,310,804	710,975,688	15.54 %
2022	135,766,365	129,691,985	6,074,380	810,106,752	16.01 %
2023	$ 146,271,554	$ 153,099,371	(6,827,817)	$ 880,922,608	17.38 %

OPEB Benefit

Fiscal Year Ending December 31,	Actuarially Determined Contributions (a)	Actual Contributions (b)	Contribution Deficiency (Excess) (a)-(b)	Covered Payroll (c)	Actual Contribution as a % of Covered Payroll (b)/(c)
2014	$ 4,093,763	$ 4,332,376	$ (238,613)	$ 519,003,905	0.83 %
2015	4,322,064	4,380,107	(58,043)	545,955,845	0.80 %
2016	4,253,678	4,364,140	(110,462)	563,316,210	0.77 %
2017	4,837,383	4,367,473	469,910	636,738,387	0.69 %
2018	5,208,156	4,952,754	255,402	671,120,225	0.74 %
2019	6,168,489	5,084,799	1,083,690	706,441,299	0.72 %
2020	5,732,330	6,870,452	(1,138,122)	713,566,300	0.96 %
2021	5,996,964	6,805,263	(808,299)	710,975,688	0.96 %
2022	6,750,922	6,453,727	297,195	810,106,752	0.80 %
2023	$ 6,190,282	$ 6,485,052	(294,770)	$ 880,922,608	0.74 %

Notes to Schedules of Contributions (Pension and OPEB)

Valuation Date:	**January 1, 2023**
Notes	Actuarially determined contribution rates are calculated as of December 31 of each year and are applicable for the following calendar (fiscal) year.

Key Methods and Assumptions Used to Determine Contribution Rates:

Actuarial Cost Method	Entry Age Normal
Asset Valuation Method	The market value of assets less any unrecognized investment gains or losses from the prior five years (with 20% of each year's gains/losses recognized annually).
Amortization Method	As of the 2019 actuarial valuation, the UAL as of January 1, 2019 is amortized over a closed 20-year period as a level percentage of payroll, with future changes in the UAL amortized over a new closed 20-year layers. In prior years, the ADC was determined using fixed 30-year layers.
Discount rate	7.00% net of investment expenses (reduced from 7.25% in 2023)
Amortization growth rate	3.00%
Price inflation	2.50%
Salary increases	3.00% plus merit component based on years of service.
Mortality	Sex Distinct Public General2010 - PUBG-2010 - Healthy Annuitant Mortality Tables, with 110% and 105% adjustment for males and females, respectively: with generational projection using scale MP-2021 (changed in 2023 from Adjusted RP-2014 Mortality Table, with generational projection using the Ultimate rates from the MP-2014 Scale)

A complete description of the methods and assumptions used to determined contribution rates for the year ending December 31, 2023 can be found in the January 1, 2023 actuarial valuation report.

Schedule of Investment Returns

(Pension and OPEB Plans)
Last 10 Fiscal Years

Fiscal Year Ending December 31,	Annual Return (1)
2014	5.41 %
2015	(1.78)%
2016	7.70 %
2017	15.14 %
2018	(2.23)%
2019	13.18 %
2020	5.40 %
2021	18.20 %
2022	(8.55)%
2023	9.97 %

(1) Annual money-weighted rate of return, net of Investment expenses

Note: The calculation of money-weighted returns is provided as an alternative to the more traditional time-weighted calculation of return which appears elsewhere in this document. Money-weighted rate of return expresses investment performance, net of pension/OPEB plan investment expenses, adjusted for the changing amounts actually invested. Money-weighted methodology takes into consideration the amount and timing of cash flows in determining a net amount invested in each period. Since the net amount invested in our investment portfolio does not fluctuate greatly, there is little difference in the results provided by the two methodologies, particularly over longer periods.

Schedule of Administrative Expenses

Year ended December 31, 2023

Personnel services	
Salaries	$ 2,211,343
Employee benefits	773,275
Total personnel services	**2,984,618**
Professional services	
Actuarial	154,723
Legal	104
Retirement board	25,565
Audit	44,900
Consultation	5,184
Total professional services	**230,476**
Office operations	
Plan insurance	115,743
Postage	8,360
Office forms and printing	11,965
Office equipment	20,576
Employee travel and conferences	8,761
Telephone	14,619
Membership education	100,622
Miscellaneous operating	113,146
Employee education	13,105
Office supplies	1,635
Publications	2,646
Interest expense lease	2,270
Operating special projects	26,674
Total office operations	**440,122**
Computer operations	
Software licenses and hosting fees	961,535
Supplies and other expenses	3,083
Total computer operations	**964,618**
Miscellaneous administrative expenses	
Building operations	289,542
Depreciation expense	394,173
Total miscellaneous administrative expenses	**683,715**
Total	**$ 5,303,549**

Schedule of Investment Expenses

Year ended December 31, 2023

Alternative investment portfolio management	$ 2,829,760
International equity portfolio management	2,052,797
Real estate portfolio management	2,390,689
Domestic equity portfolio management	1,879,987
Fixed income portfolio management	3,830,973
Absolute return investment portfolio management	733,417
Infrastructure portfolio management	864,969
Other investment related expenses	1,545,853
Custody	88,585
Total	**$ 16,217,030**

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Investment Section

MEKETA

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MEMORANDUM

TO: Board Members, Investment Staff, Denver Employees Retirement Plan
FROM: Leandro Festino, Mika Malone, Paola Nealon, Eric Larsen, Meketa Investment Group
DATE: April 3, 2024
RE: Investment Consultant's Statement for ACFR

This letter reviews the investment performance of the Denver Employees Retirement Plan (DERP) for the year ending December 31, 2023.

DERP seeks appropriate returns using Modern Portfolio Theory risk/return concepts, with the intent of providing the promised benefits to plan participants and their beneficiaries. To this end, DERP strives to align the portfolio's asset allocation, investments, and other related decisions with this goal in mind.

This alignment is a fundamental part of the Retirement Plan's Board meetings, where performance is examined (both on an overall portfolio basis and at the manager level), strategic decisions are discussed, the Plan's liabilities are examined, and asset allocation is reviewed and, if needed, modified. Meketa Investment Group, DERP's investment consultant, works in concert with DERP staff and other vendors such as DERP's actuary, to provide guidance to the Board regarding performance evaluation, asset allocation, manager assessment, and other areas, as detailed in the contract governing our services.

Meketa calculates investment performance statistics using fair values received from the custodian, BNY Mellon, and from manager statements. Rates of return are presented using a time-weighted rate of return methodology based upon estimated market values.

Calendar 2023 Year in Review

Coming into the year many were calling for a recession in 2023, following the aggressive monetary policy tightening by the Federal Reserve in 2022 (rates increased by over 400 basis points). Despite concerns over slowing growth, optimism was building that interest rates could peak in 2023 given slowing inflation. The continued strength of the US consumer due to a strong labor market, rising wages, and pandemic related savings also had many thinking that if the US economy did hit a recession, it would be mild.

The first quarter of 2023, however, was a volatile one driven by investors continuing to adjust their interest rate and inflation expectations, coinciding with the failure of Silicon Valley Bank and a few other regional banks. Ultimately, however, the swift emergency actions taken by the Federal Reserve, the Treasury, and other government agencies, helped alleviate some of the concerns connected to the banking sector. This, and a focus on slowing inflation and potentially peaking rates, led to most asset classes experiencing positive results for the first quarter of 2023, with riskier assets leading the way.

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In the first quarter of 2023, the US equity market (Russell 3000) returned 7.2%[1], while international developed market equities (MSCI EAFE) had the best quarterly results returning 8.5%. Emerging market equities (MSCI Emerging Markets) were also positive for the quarter, returning 4.0%. Chinese equities (MSCI China) rose 4.7% but generally lagged developed markets as optimism over the reopening of the economy from the pandemic was tempered by increased tensions with the US.

Fixed income markets also posted gains for the first quarter, in a volatile period for interest rates, particularly for shorter maturities. Overall, the change in monetary policy expectations and flight-to-safety flows during the height of the concerns surrounding the banking sector drove most interest rates lower. The two-year Treasury fell from 4.4% to 4.0% while the ten-year Treasury fell from 3.9% to 3.5%. The yield curve remained inverted at the end of March. The broad US investment grade bond market (Bloomberg US Aggregate) and high yield bonds (Bloomberg High Yield) rose 3.0% and 3.6%[1] during the first quarter, respectively. High yield bonds particularly benefitted from the positive risk sentiment.

Financial markets were mixed in the second quarter, as investors continued to contend with the track of inflation, the path of monetary policy, lingering fears from the regional banking crisis, and an uncertain economic outlook. Most equity markets posted strong positive returns for the quarter as the Fed kept interest rates unchanged at their June meeting for the first time since early 2022. Hopes were also growing that the Fed could reduce inflation without widespread disruptions to equity markets and the economy. Fixed income markets did not fare as well falling slightly for the quarter, as rates rose, with bond investors more focused on the continuing tightening policy of the Federal Reserve.

Of the major asset classes, the US equity market (Russell 3000) led the way, returning 8.4%[1] for the second quarter with most of the gains (6.8%) coming just in the month of June 2023. Notably, relatively few stocks (mainly large technology companies) accounted for most of the gains in the first and second quarters of 2023 driven by optimism over artificial intelligence ("AI") technology. Looking at the S&P 500, the index was up 16.9% in the first two quarters of the year. Without the top performing 44 stocks, the index would have been negative over the same period.[2]

Developed international equities (MSCI EAFE) returned 3.0% for the second quarter, while emerging market equities (MSCI Emerging Markets) lagged, returning just 0.9%. On-going signaling from the central banks in Europe and the UK to continue increasing interest rates along with an overall stronger US dollar weighed on relative results in developed markets. Chinese equities weighed heavily on overall results in emerging markets with the MSCI China index falling -9.7% for the second quarter. Chinese equities suffered due to a lackluster economic reopening, weak economic data, concerns over the property market, and heightened tensions with the US.

Treasuries reversed course in the second quarter as the Federal Reserve indicated additional rate hikes were needed to combat persistent inflation. The policy sensitive two-year Treasury increased significantly from 4.0% up to 4.9% while the ten-year Treasury rose more modestly from 3.5% to 3.8%. The yield curve inverted further given these dynamics. The broad US investment grade bond

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market (Bloomberg US Aggregate) fell 0.8%[1] in the second quarter in this environment. High yield bonds (Bloomberg High Yield) benefited from the "risk-on" sentiment, returning 1.7%[1] in the second quarter[1]. Commodities (Bloomberg Commodity Index) continued to soften on weakening global growth expectations and developments with China, declining -2.6% for the second quarter.[1]

The second half of calendar year 2023 began with a continuation of the positive sentiment from June, as economic activity and corporate data came in above expectations. However, once the Federal Reserve increased interest rates 25 basis points to a range of 5.25% - 5.5%, sentiment began to shift. This came after a pause at their June meeting on the pretext of waiting for further data to assess the impact of their rate hikes on the economy.

Given the Fed's comments and above expectations economic data, it was around this time investors started to recognize that rates could stay higher for longer. Combined with a downgrade in US debt and weakening economic data out of Europe and China, equity markets began to decline. Of the major asset classes, the US equity market (Russell 3000) fell by -3.3% in the third quarter. Outside the US, developed markets (MSCI EAFE) lost -4.1% and emerging market equities (MSCI Emerging Markets) were down -2.9%. Within emerging markets, Chinese equities (MSCI China) were down -1.9% in the third quarter of 2023.

Rates continued to drift upward in the third quarter with longer dated maturities increasing the most this time driving a flattening of the yield curve. The two-year Treasury rose slightly from 4.9% to 5.1% while the ten-year Treasury increased from 3.8% to 4.6%. Higher rates resulted in negative returns for investment grade bonds. The broad US investment grade bond market (Bloomberg US Aggregate) fell -3.2%[3]. Returns for High Yield bonds (Bloomberg High Yield) remained robust on few signs of distress and increased by 0.5% over the period.

As the fourth calendar quarter of 2023 began, futures markets were still pricing in a small chance of an additional rate hike in the cycle, with two to three potential rate decreases in 2024. Markets continued searching for overall direction though, on the path of inflation, growth, and interest rates both here in the US and abroad. As the quarter progressed, economic data started to come in below expectations and optimism built that major central banks could start cutting rates in 2024. This shift in sentiment rekindled the broad risk-on environment experienced earlier in 2023.

Among equity asset classes, the US equity market (Russell 3000) returned an impressive 12.1% in the final three months of the year. Outside the US, developed markets (MSCI EAFE) increased by 10.4% in the fourth quarter with more than half the gains coming from a depreciating US dollar. Emerging market equities (MSCI Emerging Markets) were up 7.9% over the same period. Within emerging markets, Chinese equities (MSCI China) were still down -4.2%, despite the enthusiasm around the globe.

Following a softening in inflation and expectations of lower policy rates, interest rates fell significantly in the fourth quarter, resulting in positive returns for investment grade asset classes. The two-year Treasury fell from 5.1% to 4.3% while the ten-year Treasury declined from 4.6% to 3.9%. The broad US investment grade bond market (Bloomberg US Aggregate) was up 6.8%[1], the strongest quarterly

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performance on record for that benchmark. Returns for high yield bonds (Bloomberg High Yield) continued the positive trend and increased by 7.2% over the fourth quarter.

Remarkably, despite a calendar year in which a recession was the consensus forecast, GDP growth and unemployment remained unexpectedly robust, and inflation continued to decline closer to the Federal Reserve's target. GDP growth in the US was 2.2%[4], 2.1%[4], 4.9%[4] and 3.2%[4] for the first, second, third, and fourth quarters, respectively, for calendar year 2023. Unemployment increased slightly over the calendar year, starting at 3.5% and ending at 3.7%[5], but remained remarkably low. All of this occurred while the headline year-over-year inflation number decreased from 6.5% in December 2022 to 3.4%[5] by year-end.

Outside the US, unemployment and inflation painted a more mixed picture. The Eurozone ended calendar year 2023 with unemployment numbers at 6.5%[1], down from 6.7%[1] at the beginning of the calendar year.[1] Japan ended with an unemployment figure of 2.5%, right where it started for the year. Inflation in the Eurozone ended the calendar year at 2.9%[6], down from 9.2%[6] a year earlier. Inflation in Japan ended calendar year 2023 at 2.6% versus 4.0%[1] at the beginning of the calendar year. China notably had inflation levels during calendar year 2023 close to 0% or below, given a disappointing reopening after Covid, issues in the property sector, geopolitical tensions, and capital flight out of the country.

Calendar Year 2024 Outlook

In calendar year 2023, the US economy defied most expectations, with inflation coming down quickly without significant damage to the economy despite a historically rapid increase in rates over the previous 18 months. The Federal Funds rate ended the year above 5%, while economic growth remained far from recessionary territory. This resulted in enthusiasm in equity and fixed income markets, especially toward the end of the calendar year that rate cuts could lie ahead, and a "soft landing" might be achievable this cycle. As we look toward the rest of 2024, there are several areas that could guide markets, both positively and negatively. These include:

→ Can the good news on growth, employment, and earnings continue?

- In 2024 we will be watching as the Federal Reserve attempts to manage a "soft landing" of the US economy.[7] A soft landing is when the Fed is able to sufficiently reduce inflation without increasing unemployment and turning growth negative.[8] The Fed is forecasting that the US will grow 1.4% in 2024.[9] That being said, some recession models still have the chance of a US recession at that of a coin flip.[10]
- Often, as policy rates peak, inflation starts to fall due to the impact of the rate increases flowing through the economy and slowing demand. However, in this most recent cycle, the supply-side shocks of the pandemic that disrupted the supply of food, fuel, goods, and services were a large part of the spike in inflation. As these supply-chain bottlenecks eased, inflationary pressures also diminished.[11] Throughout this inflationary period, markets' long-run inflation expectations remained close to the Fed's inflation target of 2%. This expectation helped place an implicit cap

on longer-term interest rates and bond yields. The inversion of the yield curve, where short-term interest rates are higher than long-term interest rates, persisted through 2023 and into 2024.

- This inverted yield curve allowed governments and companies to issue longer-dated debt (or refinance existing debt) at lower rates than if they were issuing short-term debt. In addition, credit spreads tightened in 2023, thus lowering borrowing costs for some corporate issuers. At the start of 2024, US corporations issued a record amount of debt at an average yield of 5.44% for ten-year corporate bonds.[12] For now, credit markets have low levels of distress and narrow spreads.[13] The net result is that, rather than facing elevated borrowing costs in 2024, many companies may be able to issue longer-dated debt at attractive rates.
- Like the resilient credit markets, the US labor market remains healthy, with forecasts for only slight increases in unemployment for 2024 and 2025 (e.g., the Fed is forecasting an unemployment rate of 4.1% for both years).[14] In 2022, the Fed forecasted that unemployment would rise in 2023 to 4.4%. Instead at year-end 2023 the unemployment rate was just 3.7%.[15] While the pace of job creation in the US slowed in 2023, the US economy still added a healthy 2.7 million jobs last year.[16] The current number of job openings (~9.0 million) continues to exceed the number of available workers with ratio of openings to available workers at 1.4.[17] Wage increases year-over-year have slowed from their peak of around 6% to 4.3%, but they are now positive in real terms.[18]
- The prospects for corporate earnings are linked to all these factors. Higher borrowing costs cut into earnings, so lower rates would ease that burden. If economic growth continues to be better than expected, it will bode well for earnings growth. Finally, rising wages can cut both ways. Higher labor costs may dampen earnings, but full employment implies that the broad population will be in a better position to fuel growth.

→ Consumers versus inflation.

- Inflation, after surging during and after the global pandemic, has significantly declined from its peak in the US and other advanced economies. However, inflation remains above the Fed's target, largely driven by the "stickier"[19] services sectors. In February 2024, the Consumer Price Index ("CPI") was at 3.2%, well below its peak of 9.1% in June of 2022.[20] Core CPI, which strips out the volatile food and fuel components, finished the year at 3.9%[1] and is slightly lower now at 3.8% down from a 6.6% peak.[21] Core inflation is higher than headline inflation, as price increases for parts of the services sector, particularly shelter, medical care, and auto insurance, remain elevated. We will be watching the path of inflation closely on this (hopefully) final leg toward the Fed's target. We will pay particularly close attention to the stickier parts of the CPI basket.
- So far, the US consumer has weathered higher prices, increased borrowing costs, and fears of a potential recession. However, some pressures are building under the surface for the US consumer related to debt. Much of the savings that was accumulated during the pandemic has now been spent, and despite wage increases recently becoming positive in real terms, overall wage gains have not kept pace with inflation.[22] This has led to consumers turning to borrowing

at a time of rapidly rising interest rates. Recently, total US consumer credit soared to over one trillion dollars, a record high, while the average interest rate on this debt also reached a record of over 20%.[23] This has not created a major strain on the consumer yet,[24] but that could rapidly change if economic growth slows, and the labor market weakens.

→ Uncertainty remains on the path of interest rates.

- The median of the Fed's dot plot forecasts a Fed Funds Rate of 4.6% by the end of 2024, while futures markets expect a similar rate by the end of the year.[25] This is a recent change as previously there was a wide gap between the Fed's interest rate outlook and that of the market. Although both are now forecasting similar declines in interest rates this year, questions remain on the timing of rate of cuts. Market expectations are pricing the probability of an interest rate cut at below 50% for many of the upcoming meetings. The timing of cuts and their magnitude may prove to be a key driver of results this year.
- Market participants increased their bets late last year and into early this year on how many times the Fed would lower rates in 2024 from two all the way to seven. At peak rate-cutting enthusiasm, the timing of the first rate cut was expected to take place in March. Given strong economic data and recent Fed guidance, the number of cuts anticipated by the markets for 2024 has since been reduced to two or three, with the first cut now expected in the second half of 2024.[26]
- This year we will be closely watching key economic data releases for any clues to the path of Fed policy. If the Fed cuts interest rates at a faster pace than is currently expected, we could see further gains in risk assets. However, if the timing of cuts is further delayed or the magnitude of cuts is lower than expected, we see the potential for an asymmetric risk to the downside for risk assets, as this adjustment would likely be driven by continued strength in the labor market and inflation remaining elevated.

→ Geopolitical risks.

- China is one of the first countries we inspect on the world stage, given its economic and political heft, not to mention its rivalry with the US. China's geopolitical ambitions continue to worry its neighbors and the US. Tensions may escalate for any number of reasons, such as the US signaling support for the pro-independence party winning in Taiwan's recent election. While the re-election of Taiwan's ruling Democratic Progressive Party party was expected, US-China strain has not subsided despite President Xi's visit to the US last summer.[27]
- A proliferation of ongoing and latent regional conflicts has the potential to destabilize markets as well. The war in Ukraine continues to demand more military and financial support.[28] Hamas' attack on Israel and the response of the Israeli Defense Force in Gaza has placed Israel's allies in a difficult position. While Iran has denied involvement in the attack, the long association between Iran and Hamas has prompted concerns regarding a resurgence of proxy wars. The pressure on global supply chains has risen considerably as Houthi rebels (another group considered to be a proxy force for Iran) attack NATO/Israeli allied ships in the Red Sea.[30] So far, the attacks have provoked the re-routing of at least $200 billion in cargo, adding over 10 days and 3,000 miles to the transport route.[29]

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- China, with its own troubled domestic economy and real estate crisis, could continue to favor pro-nationalist policies over economic growth. Politically, China might try to thwart US multilateral efforts to restore peace in the Middle East and contain President Putin.[30] Foreign investors are pulling a record amount of capital out of China, making China's economic woes worse.[31] Despite Chinese policy makers scrambling to restore investor confidence and battle deflation, public markets in China continue to decline.
- We will continue to evaluate these geopolitical concerns, with an eye toward their impact on inflation and growth. Increases in geopolitical conflicts could hamper supply chains and once again drive-up inflation. As the world's second largest economy, the health of the Chinese economy is important to many corporations and investors.

DERP 2023 Performance

DERP's portfolio returned 9.6% in 2023, underperforming the Policy Index return of 10.5%. For 2023, DERP's performance ranked in the lower decile (90th percentile) of the peer universe[32] (1st percentile is best and 100th is worst). The US Equity Large Cap and International Emerging Markets Equity Composites had the strongest absolute performance during 2023, returning 31.4% and 23.7%, respectively. The Closed End Real Estate Composite had the weakest 2023 performance at -13.7%.

Over the trailing three-, five-, seven-, and ten-year periods, the DERP portfolio returned 6.1%, 7.4%, 7.0%, and 6.0%, on average, annually, respectively, exhibiting mixed performance versus the current actuarial assumed rate of return of 7.0%. Additionally, DERP returned 8.3% (annualized) since inception (January 1986), and ranks in the second quartile (34th percentile) of the peer universe since that time, well ahead of its assumed rate of return.

Sincerely,

Leandro Festino, CFA, CAIA
Managing Principal, Consultant

M

April 3, 2024

1 Source: Bloomberg.
2 Source: S&P Dow Jones Indices.
3 Source: OECED.
4 Source: Bureau of Economic Analysis.
5 Source: Bureau of Labor Statistics.
6 Source: Eurostat.
7 Source: Federal Reserve of St. Louis, "K. Engermann, "" A Soft Landing for the Economy: What it Means and What Data to Look at," October 11, 2023. The Fed was not able to tame inflation in the late 1970s and early 1980s without triggering economic recessions and raising unemployment.
8 Source: Federal Reserve of St. Louis, "K. Engermann, "" A Soft Landing for the Economy: What it Means and What Data to Look at," October 11, 2023.
9 Source: IMF, "World Economic Outlook," January 2024 has forecast US growth to be 1.5% in 2024. See also Federal Reserve, "Summary of Economic Projections," December 2023. Real GDP for US in 2024 range from 0.8% to 2.5%.
10 Source: Wall Street Journal, H. Troy et al., "A Recession is No Longer the Consensus," October 15, 2023. Wall Street Journal survey of economists estimate probability of recession below fifty percent. There are economists who have included a 'no landing' outcome where growth remains strong and labor markets are tight with falling inflation.
11 Source: Federal Reserve of Cleveland, M. Gordon, "Impacts of Supply Chain Disruption on Inflation," May 2023. European Central Bank, S. Tenreyo, "Monetary Policy in the Face of Supply Shocks: The Role of Inflation Expectations," June 26-28, 2023.
12 Source: Bloomberg, C. Mutua, "US Corporate Bonds Sales Hit $188 Billion in January," January 29, 2024.
13 Source: Federal Reserve of New York, "Corporate Bond Market Distress Index", January 31, 2024.
14 Source: Federal Reserve, "Summary of Economic Projections," December 2023. Unemployment forecast 4.1% for 2024. In September 2022, the FOMC forecast unemployment to rise to 4.4% in 2023.
15 Source: BLS as of January 2024. FOMC, "Summary of Economic Projections," September 2022.
16 Source: Bureau of Labor Statistics, January 2024.
17 Source: BLS, February 2024. In 2022 the US economy added 4.8 million jobs at an average monthly pace of 399,000.
18 Source: Employment Cost Index, December 31, 2023.
19 Source: Federal Reserve Bank of Cleveland, M. Bryan, "Are Some Prices More Forward Looking than Others? We Think So'", May 19, 2010. Sticky prices are the prices for goods and services that do not respond quickly to aggregate demand. Medical care, personal services, insurance, and education are some examples of sticky-price services and goods. About 70% of headline CPI includes goods and services with another 30% of the index reflecting goods and services that change prices more quickly in response to consumer demand.
20 Source: Bureau of Labor Statistics as of February 13, 2024.
21 Source: Bureau of Labor Statistics as of February 13, 2024. In January 2024, shelter costs accounted for two-thirds of inflation.
22 Source: BLS, January 2024.
23 Source: FRED, data as of September 2023. Student loans reached $1.7 T dollars. Revolving consumer credit for all commercial banks was $1.0 T as of January 2024The Commercial Bank Interest Rate of Credit Card Plans reached 21.5% as of November 2023.
24 Source: FRED, data as of September 2023. Household Debt Service Payments as a Percent of Disposable Personal Income is at pre-pandemic levels at 9.8%.
25 Source: Federal Reserve, "Summary of Economic Projections," December 2023. The Fed dot plot shows the range of policy rate forecasts of each of the FOMC members where the mid-point is established. Observers can see the range for each forecast in a dot-plot layout where each dot is a voting member's forecast.
26 Source: Chicago Mercantile Exchange, February 27, 2024.
27 Source: Center for Strategic and International Studies, B. Hart et al., "Taiwan's 2024 Elections: Results, and Implications," January 19, 2024. China has issued diplomatic communications to the US, Japan, and the EU for sending delegations to Taiwan.
28 Source: Financial Times, C. Miller, "Active Defense [sic]: How Ukraine Plans to Survive in 2024," January 18, 2024.
29 Source: Council on Foreign Relations, N. Berman, "How Houthi Attack in the Red Sea Threaten Global Shipping, January 12, 2024.
30 Source: Brookings, P. Kim, "The US- China Relationship is Stabilized but Precarious," January 12, 2024.
31 Source: Peterson Institute for International Economics (PIIE), N. Lardy, "Foreign Direct Investment is Exiting China, New Data Show," November 17, 2023.
32 Based on InvestorForce peer rankings: Defined Benefit Public Funds over $1 billion in assets.

Investment Summary

Category	Book Value	Fair Value	% of Investments at Fair Value	2023 Target Allocation
Domestic Equities	$ 308,554,860	$ 510,492,429	20.0 %	22.0 %
International Equities	426,684,276	533,909,954	20.9 %	22.0 %
Fixed Income	581,436,751	598,856,764	23.5 %	23.5 %
Real Estate	165,338,897	191,834,900	7.5 %	10.0 %
Alternatives	259,402,867	417,790,675	16.4 %	12.5 %
Infrastructure	69,586,304	72,096,192	2.8 %	3.0 %
Absolute Return	167,777,163	171,236,709	6.7 %	7.0 %
Cash and Short-Term Investments	54,758,121	54,754,251	2.2 %	— %
Total Investment Value	$ 2,033,539,239	$ 2,550,971,874	100.0 %	100.0 %

Investment Policy

The Denver Employees Retirement Plan (DERP) was established on January 1, 1963, as a defined benefit pension plan. The DERP Retirement Board assumes full and absolute responsibility for establishing, implementing, and monitoring adherence to the pension fund policy. The investment of the Trust shall be in accord with all applicable laws of the State of Colorado and the City and County of Denver. Specifically:

(a) Investments shall be solely in the interest of the participants and their beneficiaries and for the exclusive purpose of providing benefits to the participants and their beneficiaries.

(b) Investments shall be made with the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent investor acting in a like capacity and familiar with these matters would use in the conduct of an enterprise of a like character with like aims.

(c) Investments shall be diversified so as to minimize the risk of loss and to maximize rate of return, unless under the circumstances it is clearly prudent not to do so.

Investment Responsibilities

Our retirement board is responsible for formulating investment strategies, asset allocation, and monitoring the performance of investment management firms and professionals. The retirement board has formal written objectives and guidelines contained in our investment policy, in which asset allocation targets, investment objectives, and investment manager guidelines are specified. Changes to the investment policy must be approved by the retirement board.

The investment managers are each responsible for implementing investment strategies in accordance with our stated investment policies, guidelines, and objectives. Each manager is responsible for optimizing investment return within its guideline constraints and in the sole interest of our members and beneficiaries. The retirement board has directed all investment managers to vote proxies in the interest of our members and beneficiaries, and to report annually as to how proxies were voted.

Investment Section

Investment Objectives

As outlined in the investment policy, the investment objectives include:

(a) The investment objective for the Trust as a whole is to provide a net realized rate of return meeting or exceeding the actuarial assumption of seven percent (7.0%), annualized, over a full market/economic cycle of three to seven years.

(b) Consistent with this minimum investment objective, an attempt to maintaining an efficient portfolio determined by the risk/return concepts of Modern Portfolio Theory will be made.

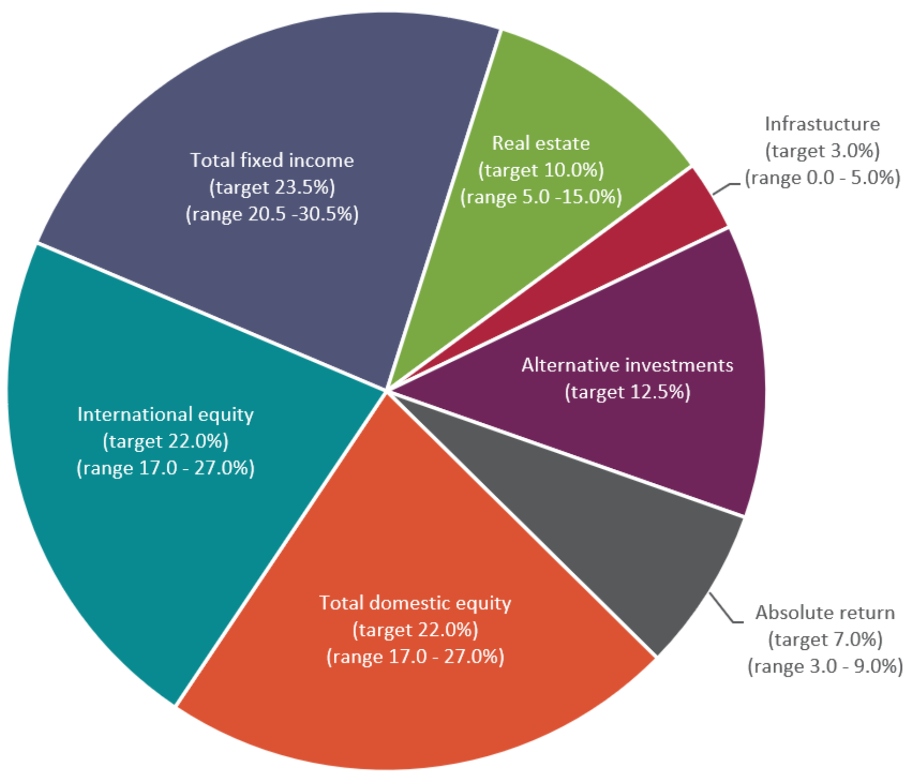
(c) The relative investment objective, over a market/ economic cycle of three to seven years, is to exceed the rate of return that would have been achieved by a statically allocated and passively managed portfolio, at the same risk, in accordance with the long term asset allocation policy set forth.

Asset Allocation Target

The retirement board recognizes that an asset allocation plan has the greatest impact on long-term performance results and is, therefore, the most important decision in the investment process. The risk/return profile is maintained by identifying a long-term target strategic asset allocation. Temporary deviations from the targets are held within ranges.

The first formal asset allocation plan was adopted by the retirement board in 1989. There have been subsequent asset allocation plans adopted, with the most recent being on November 17, 2023. Our investment consultant assisted the retirement board in developing the latest asset allocation.

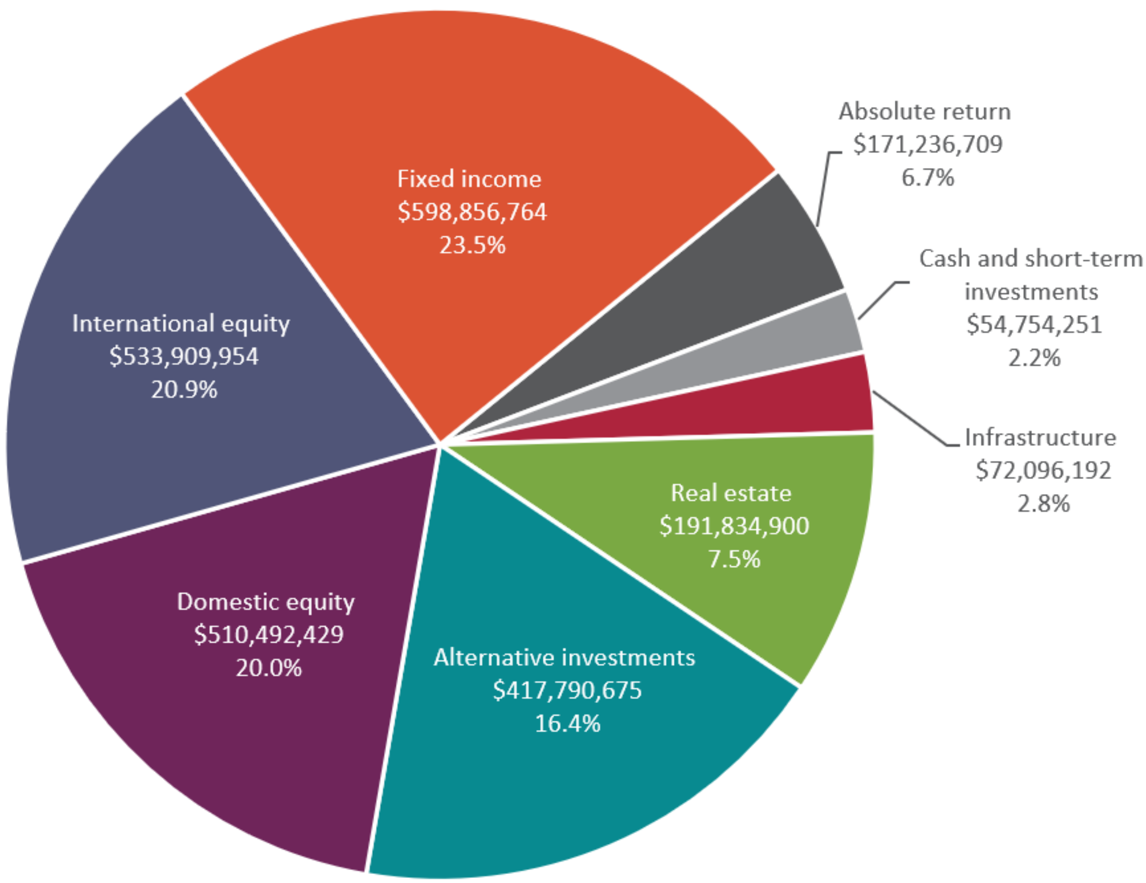
The asset allocation strategy as of December 31, 2023 is depicted in the chart below:



At target, a portfolio so allocated would be expected to achieve an 8.0% return with a standard deviation (risk) of 13.0%.

Asset Allocation by Asset Class

Our total Fiduciary Net Position on December 31, 2023, was $2,563,880,081 including cash and investments of $2,550,971,874. At December 31, 2023, our investment assets were allocated as shown in the following chart:



Investment Section

Our staff actively monitors each investment manager for compliance with guidelines. There is no allocation to cash. Each manager is directed to prudently remain fully invested in their asset style group. All allocated but uninvested cash is commingled and actively managed by DERP. Investment manager, custodian, and consultant fees are aggressively negotiated and reviewed periodically.

The top ten stock and bond holdings as of December 31, 2023, are shown in the following tables:

Top Ten Stock Holdings
December 31, 2022

Shares	Stocks	Fair Value
30,575	Microsoft Corp	$ 11,497,423
73,349	Amazon.com Inc	11,144,647
64,166	Alphabet Inc	9,012,212
12,386	Unitedhealth Group Inc	6,520,857
10,318	Nvadia Corp	5,109,680
19,407	Visa Inc	5,052,612
42,509	ConocoPhillips	4,934,020
13,818	Meta Platforms Inc	4,891,019
6,769	Intuit Inc	4,230,828
62,245	Shell PLC	4,095,721

Top Ten Bond Holdings
December 31, 2023

Par	Bonds	Coupon Rate	Maturity Date	Fair Value
15,000,000	U.S. Treasury Note	0.875 %	9/30/2026	$ 13,783,650
13,000,000	U.S. Treasury Note	4.625 %	2/28/2025	12,993,370
10,000,000	U.S. Treasury Note	4.250 %	5/31/2025	9,964,500
10,000,000	FNMA Bond	1.875 %	9/24/2026	9,435,900
11,000,000	FNMA Bond	0.875 %	8/5/2030	8,978,860
9,000,000	U.S. Treasury Note	3.000 %	6/30/2024	8,905,770
8,000,000	U.S. Treasury Note	5.000 %	8/31/2025	8,075,040
8,000,000	U.S. Treasury Note	2.250 %	3/31/2024	7,940,320
7,000,000	U.S. Treasury Note	2.500 %	5/31/2024	6,921,810
6,000,000	FNMA Bond	6.625 %	11/15/2030	6,916,080

Complete listings of stock and bond holdings are available at our office.

Investment Performance

We contract with Meketa Investment to measure investment results on a quarterly basis. Returns are calculated using a time-weighted rate of return based on the fair value of assets. Returns are reported net of fees unless otherwise stated. The estimated annualized return from January 1, 1986 to December 31, 2023 is 8.3%. Annualized investment results compared with benchmarks for the year ending December 31, 2023, are as follows:

	Last Year	Last 3 Years	Last 5 Years	Last 10 Year
Domestic Equity	29.4 %	7.4 %	15.3 %	11.3 %
Russell 3000 Index	26.0 %	8.5 %	15.2 %	11.5 %
International Equity	19.5 %	4.7 %	7.5 %	4.0 %
International Equity Policy Index	15.2 %	7.0 %	6.7 %	4.0 %
Fixed Income	5.5 %	(7.0)%	2.0 %	2.7 %
Fixed Income Policy Index	7.1 %	(7.0)%	2.7 %	2.6 %
Real Estate	(13.1)%	3.1 %	1.5 %	5.5 %
NCREIF Index	(12.0)%	4.9 %	4.2 %	7.3 %
Alternatives	0.3 %	15.4 %	8.9 %	10.2 %
Infrastructure	10.9 %	N/A	N/A	N/A
CPI +3%	6.8 %	N/A	N/A	N/A
Absolute Return	5.4 %	6.8 %	7.3 %	4.0 %
HFRI FOF Conservation Index	5.3 %	4.3 %	5.1 %	3.4 %
Total Portfolio	9.6 %	6.1 %	7.4 %	6.0 %
Total Fund Policy Index	10.5 %	5.0 %	8.2 %	6.4 %
Change in Consumer Price Index (CPI-U)	4.1 %	5.9 %	4.3 %	3.1 %

Schedule of Investment Commissions

December 31, 2023

Broker	Quantity (Units)	Broker Commission	Commission Per/Share
Merrill Lynch Pierce Fenner Smith Inc	275,809	7,528	$ 0.027
Goldman Sachs & Co	253,702	5,618	0.022
Bernstein Sanford C & Co	176,198	4,810	0.027
Jefferies & Co Inc	168,193	4,688	0.028
Morgan Stanley & Co Inc	159,564	4,940	0.031
J.P. Morgan Securities	130,434	3,768	0.029
Pershing LLC	118,066	3,997	0.034
National Financial Services Corp	91,275	2,659	0.029
Wells Fargo Securities LLC	90,896	2,660	0.029
Cowen and Co LLC	85,604	3,392	0.040
UBS Securities LLC	66,719	1,923	0.029
Raymond James & Assoc Inc	51,166	1,750	0.034
Stifel Nicolaus	49,137	1,527	0.031
State Street Global Markets LLC	34,283	1,028	0.030
William Blair & Co	32,124	1,248	0.039
RBC Capital Markets LLC	31,349	626	0.020
Instinet Corp	31,113	776	0.025
Citigroup Global Market Inc	28,592	870	0.030
Cantor Fitzgerald & Co Inc	26,407	918	0.035
BMO Capital Market Corp	22,654	510	0.023
Barclays Capital	21,263	726	0.034
Baird, Robert W & Co Inc	13,260	527	0.040
Liquidnet Inc	11,078	277	0.025
Oppenheimer & Co	10,531	384	0.037
BTIG LLC	5,246	131	0.025
Luminex Trading and Analytics	4,921	123	0.025
Investment Tech Group Inc	4,512	113	0.025
ISI Group Inc	3,540	142	0.040
Deutsche BK Sec	2,566	73	0.029
Mirae Asset Sec	2,111	79	0.038
Mizuho Securties Inc	2,045	82	0.040
Credit Suisse	1,422	18	0.013
Strategas Securities LLC	1,290	52	0.040
Total	**2,007,070**	**$ 57,963**	**$ 0.029**

Schedule of Investment Fees

December 31, 2023

Externally Managed Portfolios	Assets Under Management	Fees
U.S. Equities		
Actively Managed	$ 262,455,274	$ 1,833,835
Passively Managed	248,037,155	46,152
International Equities		
Actively Managed	458,169,733	2,031,276
Passively Managed	75,740,220	21,521
Fixed Income		
Actively Managed	406,558,700	3,804,997
Passively Managed	192,298,064	25,976
Real Estate		
Fees netted with earnings	191,834,900	2,390,689
Absolute Return		
Fees netted with earnings	171,236,709	733,417
Alternative Investments		
Fees netted with earnings	414,999,465	2,784,446
Fees paid separately	2,791,211	45,314
Infrastructure		
Fees netted with earnings	72,096,192	864,969
	$2,496,217,623	**$ 14,582,592**
Other Investment Services		
Custody Fees		$ 88,585
Other investment related expenses		$ 1,545,853

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Actuarial Section

CHEIRON

Classic Values, Innovative Advice

May 22, 2024

Retirement Board
Denver Employees Retirement Plan
777 Pearl Street
Denver, Colorado 80203

Re: Actuarial Certification – Actuarial Valuation as of January 1, 2023

Dear Board Members,

This is the Actuary's Certification Letter for Actuarial Section of the Annual Comprehensive Financial Report (ACFR) for the Denver Employees Retirement Plan (the Plan) as of December 31, 2023 with respect to pension and retiree health benefits.

Actuarial Valuation Used for Funding Purposes

The purpose of the annual Actuarial Valuation Report performed as of January 1, 2023 is to determine the actuarial funding status of the Plan on that date and to calculate the total Actuarial Determined Contribution. Please refer to that report for additional information related to the funding of the Plan.

We prepared the following schedules for inclusion in the Actuarial Section of the ACFR based on the January 1, 2023 actuarial valuation. All historical information prior to the January 1, 2019 actuarial valuation shown in these schedules is based on information reported by the prior actuary, Gabriel, Roeder, Smith and Co.

- Schedule 1 – Summary of Actuarial Assumptions and Methods
- Schedule 2 – Analysis of Financial Experience
- Schedule 3 – Demographic History
- Schedule 4 – Schedule of Funded Liabilities by Type / Member Benefit Coverage Information
- Schedule 5 – Summary of Plan Provisions
- Schedule 6 – Schedule of Funding Progress

The funding ratios shown in the schedule of funded liabilities by type and the schedule of funding progress exhibits are ratios compared to the funding target and are for the purpose of evaluating funding progress in a budgeting context. These ratios are not appropriate for measuring or assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligations.

www.cheiron.us 1.877.CHEIRON (243.4766)

Denver Employees Retirement Plan
May 22, 2024
Page ii

The Retirement Board is responsible for establishing and maintaining the contribution policy for the Plan. However, the City is responsible for establishing the allocation of the total contribution between the employers and employees. The actuarial methods and assumptions used in the actuarial valuation are adopted by the Board of Administration with advice from the actuary. In our opinion, the assumptions and methods used in the actuarial valuation for funding purposes are consistent with applicable Actuarial Standards of Practice. The actuarial cost method and the actuarial assumptions used for funding purposes are the same as those used for financial reporting purposes.

Actuarial Valuation Used for Financial Reporting Purposes

For financial reporting purposes, the Total Pension Liability is based on the January 1, 2023 actuarial valuation updated to the measurement date of December 31, 2023. There were no significant events between the valuation date and the measurement date, so the update procedures only include the addition of service cost and interest cost offset by actual benefit payments.

Please refer to our GASB 67/68 and GASB 74/75 reports as of December 31, 2023 for additional information related to the financial reporting of the Plan. The following schedules can be found in these reports for inclusion in the Financial Section of the ACFR.

- Change in Net Pension Liability / Net OPEB Liability
- Sensitivity of Net Pension Liability / Net OPEB Liability to Changes in Discount Rate
- Schedule of Changes in Net Pension Liability / Net OPEB Liability and Related Ratios
- Schedule of Employer Contributions
- Notes to the Schedule of Employer Contributions

Funding Policy/Objective

The Plan's funding objective is to meet its long-term benefit obligations through employer and employee contributions and investment returns. The contributions from the employers and employees equal the sum of:

- The total Normal Cost under the actuarial funding method, and
- Amortization of the Unfunded Actuarial Liability (UAL)

The UAL is the difference between the EAN Actuarial Liability and the Actuarial Value of Assets. As of January 1, 2019, all of the prior UAL bases were combined and an initial layer to amortize the existing UAL as a level percentage of projected payroll over a 20-year period was created. An additional layer was created to amortize the change in the actuarial cost method and asset smoothing method. Any subsequent unexpected changes in the UAL will be amortized over new 20-year periods. The amortization payment to cover the increase in the UAL due to lowering the discount rate from 7.50% to 7.25% as of January 1, 2021 was phased-in over a three-year period. The January 1, 2023 valuation includes the third and final year of the phase-in period. As of the January 1, 2023 valuation, the assumed rate of return and discount rate were reduced from 7.25% to 7.00% with no phase-in.

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Denver Employees Retirement Plan
May 22, 2024
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Assumptions

The demographic assumptions used in performing the January 1, 2023 valuation, were recommended in the Actuarial Experience Study performed by Cheiron, covering the period from January 1, 2018 through December 31, 2022. These assumptions were adopted by the Board of Trustees at their May 19, 2023 Board meeting. The Retirement Board recommended lowering the discount rate from 7.25% to 7.00% at their July 21, 2023 Board meeting. The assumptions and methods used for funding purposes were developed in compliance with the actuarial standards of practice as they relate to pension and retiree medical plans. The assumptions reflect the likely future experience of the System and the assumptions both individually and as a whole represent the best estimate for the future experience of the System.

Certification

In preparing our valuation and GASB reports, we relied on information (some oral and some written) supplied by the Plan. This information includes, but is not limited to, plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standards of Practice No. 23.

Future actuarial measurements may differ significantly from the current measurements 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; and changes in plan provisions or applicable law.

Cheiron's reports and the exhibits within this letter and their contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices, and our understanding of the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board, as well as applicable laws and regulations. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinions contained in this section. This section does not address any contractual or legal issues. We are not attorneys, and our firm does not provide any legal services or advice.

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Denver Employees Retirement Plan
May 22, 2024
Page iv

Our report and this letter were prepared for the Denver Employees Retirement Plan for the purposes described herein and for the use by the Plan and participating employers' auditors in completing an audit related to the matters herein. Other users of this information are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to any other user.

Sincerely,
Cheiron

Anne D. Harper, FSA, EA, MAAA	Graham A. Schmidt, FSA, EA, MAAA, FCA
Principal Consulting Actuary	Principal Consulting Actuary

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Summary of Actuarial Assumptions and Methods

Contribution Allocation Procedure

The contribution allocation procedure primarily consists of an actuarial cost method, an asset valuation method, and an amortization method as described below. The actuarial cost method, amortization method, and asset valuation method were all changed as of the January 1, 2019 valuation as described below.

1. **Actuarial Cost Method**

   The cost method for the valuation of liabilities used for this valuation is the Entry Age Normal (EAN) method. The actuarial present value of the projected benefits of each active members is allocated as a level percentage of each individual's projected pay to the period between their date of hire and their assumed maximum retirement age. The normal cost for the Plan is the sum of the individual normal costs for each member. This actuarial cost method is in compliance with GASB standards. The EAN Actuarial Liability is the difference between the Plan's total present value of future benefits and the present value of future normal costs. The unfunded actuarial liability is the difference between the Actuarial Liability and the Actuarial Value of Assets.

   Deferred Retirement Option Plan (DROP I and DROP II) – The DROPs are closed and no new members are assumed to enter either of the two DROPs. All members have retired from the DROPs. For DROP members who have left their DROP balances in the Plan, an Actuarial Liability equal to the sum of the individual DROP account balances is included in the Plan's Actuarial Liabilities. Further detail describing the DROPs can be found in the Summary of Plan Provisions in this report.

2. **Amortization Method**

   The Unfunded Actuarial Liability (or Surplus Funding) is amortized as a percentage of the projected salaries of DERP members. Effective with the January 1, 2019 valuation, the Unfunded Actuarial Liability (UAL) as of January 1, 2019 was amortized over a closed 20-year period. The additional UAL attributable to the change in funding method and asset valuation method was amortized over a separate 20-year period. All future gains and losses will be amortized over new 20-year periods, called layers.

   The amortization payment to cover the increase in the UAL due to lowering the discount rate from 7.25% to 7.00% as of January 1, 2021 was phased-in over a three-year period with the final year of the phase-in occurring with the January 1, 2023 valuation.

3. **Asset Valuation Method**

   As of January 1, 2019, the Actuarial Value of Assets is determined as the Market Value of Assets less any unrecognized investment gains or losses in each of the last five years. In general, the gains and losses are equal to the difference between the actual market return and the expected market return and are recognized over a five-year period or 20% per year.

Summary of Actuarial Assumptions and Methods

Actuarial Assumptions

The return assumption was adopted by the Board at their July 21, 2023 meeting, based on information presented by Cheiron and the Plan's investment consultant (Meketa). The other assumptions used in this report reflect the results of an Experience Study performed by Cheiron covering the period from January 1, 2018 through December 31, 2022, and adopted by the Board at their July 21, 2023 meeting for the January 1, 2023 actuarial valuation. More details on the rationale for these assumptions can be found in the Actuarial Experience Study Report dated May 16, 2023.

1. **Rate of Return**

   Assets are assumed to earn 7.00%, net of investment and administrative expenses

2. **Administrative Expenses**

   No explicit assumption because assumed rate of return is net of administrative expenses

3. **Cost-of-Living / Inflation**

   2.50%

4. **Post Retirement COLA**

   0.00% per year

5. **Internal Revenue Code Section 415 Limit**

   The Internal Revenue Code Section 415 maximum benefit limitation for 2023 is reflected in the valuation and increased annually for future years by the assumed CPI of 2.50%.

6. **Internal Revenue Code Section 401(a)(17)**

   The Internal Revenue Code Section 401(a)(17) maximum compensation limitation for 2023 is reflected in the valuation and increased annually for future years by the assumed CPI of 2.50%.

7. **Interest on Member Contributions**

   The annual credited interest rate on non-vested member contributions is assumed to be 1.0%.

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Summary of Actuarial Assumptions and Methods

8. Unused Sick and Vacation Hours

For members hired prior to January 1, 2010, unused sick and vacation hours are converted into pay at retirement, death, disability or termination. That converted amount is included in the Highest Average Salary. The valuation accounts for this by assuming the FAC will be increased by 7.00% for active retirement benefits and increased by 3.50% for active ordinary death and termination benefits for eligible members.

9. Family Composition

Percentage married for all active members who retire, become disabled, or die during active service is shown in the table below. Male spouses are assumed to be the same age as female spouses for active members.

Percentage Married	
Gender	Percentage
Males	70%
Females	50%

10. Increases in Pay

Wage inflation component: 3.00%
Additional longevity and promotion component:

Service	Non-DHHA
0	7.00%
1	5.50%
2	3.50%
3	3.25%
4	3.00%
5	2.75%
6	2.50%
7	2.25%
8	2.00%
9	1.50%
10	1.50%
11	1.25%
12	1.25%
13	1.00%
14	0.75%
15	0.50%
16	0.50%
17	0.25%
18	0.25%
19	0.25%
20+	0.00%

Age	DHHA
≤ 34	2.00%
35-39	0.75%
40-44	0.50%
45-59	0.25%
60+	0.00%

Summary of Actuarial Assumptions and Methods

11. Rates of Termination

Sample rates of termination are shown in the following table below.

Service	Non-DHHA
0	22.0%
1	16.0%
2	14.5%
3	12.0%
4	11.5%
5	10.0%
6	9.0%
7	9.0%
8	8.0%
9	7.5%
10	6.5%
11	5.5%
12	5.0%
13	4.5%
14	4.0%
15	4.0%
16	3.0%
17	3.0%
18	3.0%
19	3.0%
20+	2.0%

Age	DHHA
≤ 29	10.0%
30-39	5.0%
40-49	4.0%
50-54	2.5%
55+	0.0%

**Termination rates do not apply once member is eligible for retirement*

Summary of Actuarial Assumptions and Methods

12. Rates of Disability

Disability rates are based on a standard non-industrial disability table. Rates at representative ages are shown below.

Age	Rates
20	0.030%
25	0.030%
30	0.030%
35	0.030%
40	0.040%
45	0.060%
50	0.098%
55	0.143%
60	0.188%
65	0.233%

10% of disabilities are assumed to be duty-related and 90% are assumed to be non-duty related.

13. Rates of Mortality

Mortality rates were adjusted to include margin for future longevity improvement as described below:

Active Mortality
Sex Distinct Public General 2010 – PUBG-2010 – Employee Mortality Table, without adjustment with generational projection using scale MP-2021.

10% of deaths are assumed to be duty-related and 90% are assumed to be non-duty related.

Healthy Retirees and Deferred Vested Members
Sex Distinct RP-2014 Healthy Annuitant Mortality Table with a 110% multiplier applied to males and a 105% multiplier applied to females, and generational projection using scale MP-2021.

Beneficiaries
Sex Distinct Public General 2010 Below-Median Income – PUBG-2010(B) – Contingent Survivor Mortality Table, with a 115% multiplier applied to males and a 112.5% multiplier applied to females without adjustment with generational projection using scale MP-2021.

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Summary of Actuarial Assumptions and Methods

Disabled Retirees

Sex Distinct RP-2014 Disabled Retiree Mortality Table with a 110% multiplier applied to males and a 120% multiplier applied to females, and generational projection using scale MP-2021.

14. Form of Benefit Payment and Timing

When active members retire or become disabled, they are assumed to choose a life annuity. Benefits are assumed to be paid at the beginning of the month.

15. Rates of Retirement

Non-DHHA Rates of Retirement

Normal and Early Retirement Rates		
Age	Tiers 1 & 2	Tier 3
55	5.0%	0.0%
56	5.0%	0.0%
57	6.0%	0.0%
58	6.0%	0.0%
59	6.0%	0.0%
60	6.0%	10.0%
61	10.0%	7.5%
62	10.0%	7.5%
63	10.0%	10.0%
64	10.0%	15.0%
65	20.0%	20.0%
66	18.0%	25.0%
67	18.0%	25.0%
68	18.0%	20.0%
69	25.0%	20.0%
70	30.0%	20.0%
71	30.0%	20.0%
72	100.0%	100.0%

Summary of Actuarial Assumptions and Methods

Eligible for Rule of 75 or Rule of 85

Rule of 75/85 Retirement Rates			
	Non-DHHA		
Age	Tier 1	Tiers 2 & 3	DHHA
NAR	27.0%	20.0%	20.0%
NAR+1	20.0%	15.0%	12.5%
NAR+2	15.0%	15.0%	12.5%
NAR+3	20.0%	20.0%	12.5%
NAR+4	20.0%	20.0%	12.5%
NAR+5	20.0%	20.0%	12.5%
NAR+6	27.0%	27.0%	20.0%
NAR+7	30.0%	30.0%	15.0%
NAR+8	30.0%	30.0%	15.0%
NAR+9	35.0%	35.0%	25.0%
NAR+10	40.0%	40.0%	25.0%
NAR+11	100.0%	100.0%	100.0%

Normal Age at Retirement (NAR) is defined as the first age at which a member is eligible to retirement under the Rule of 75 or Rule of 85.

All DHHA members are assumed to retire under "Rule of" retirement.

The retirement assumption is 100% after attainment of age 72 (age 75 for the DHHA group) or NAR+11.

Inactive members are assumed to retire at the age when they are first eligible.

16. Retiree Medical Election Percentages

The assumptions for members who elect retiree medical benefits are as follows:

Retirees	85%
Inactives	25%
Beneficiaries	70%
Disabled	80%

17. Maximum Retiree Medical Benefit

The retiree medical benefit is limited to the monthly health premium.

18. Changes Since Last Valuation

The Investment Rate of Return was decreased from 7.25% to 7.00%.

Summary of Actuarial Assumptions and Methods

Based on the findings of the 2018-2022 experience study, several demographic assumptions were updated to better reflect the experience of the Plan. For details on the assumption changes, please see the Actuarial Experience Study for January 1, 2018 through December 31, 2022 issued in May 2023.

Denver Employees Retirement Plan Schedule 2

Analysis of Financial Experience

Composite Gain (Loss) for the Years Ending December 31, 2018 through December 31, 2022.

Pension Benefits

	Dec 31, 2022	Dec 31, 2021	Dec 31, 2020	Dec 31, 2019	Dec 31, 2018
Demographic Experience	$ (88,760,765)	$ 8,208,780	$ (29,128,753)	$ (13,993,345)	$ (28,925,223)
Investment Income	(49,308,951)	22,531,189	(23,832,619)	(36,961,589)	(58,325,659)
Contribution Gain (Loss)[1]	12,385,005	(3,714,412)	1,150,377	(12,746,285)	(5,527,971)
Total Gain (Loss)	$ (125,684,711)	$ 27,025,557	$ (51,810,995)	$ (63,701,219)	$ (92,778,853)
Non-Recurring Items[2]	(49,700,178)	0	(97,875,749)	0	(180,806,014)
Composite Gain (Loss) During Year	$ (175,384,889)	$ 27,025,557	$ (149,686,744)	$ (63,701,219)	$ (273,584,867)

[1] Contribution Gain (Loss) represents implementation logs and payroll growth not as assumed.

[2] Includes Assumption, Method and Benefit Changes.

Health Benefits

	Dec 31, 2022	Dec 31, 2021	Dec 31, 2020	Dec 31, 2019	Dec 31, 2018
Demographic Experience	$ 3,790,722	$ 5,272,511	$ 2,022,025	$ 2,924,694	$ 1,340,646
Investment Income	(1,626,350)	659,484	(806,487)	(1,226,092)	(2,236,926)
Contribution Gain (Loss)[1]	703,719	1,339,330	1,613,491	(901,196)	(296,989)
Total Gain (Loss)	$ 2,868,091	$ 7,271,325	$ 2,829,029	$ 797,406	$ (1,193,269)
Non-Recurring Items[2]	2,501,990	0	(3,848,146)	0	(8,912,349)
Composite Gain (Loss) During Year	$ 5,370,081	$ 7,271,325	$ (1,019,117)	$ 797,406	$ (10,105,618)

[1] Contribution Gain (Loss) represents implementation logs and payroll growth not as assumed.

[2] Includes Assumption, Method and Benefit Changes.

Denver Employees Retirement Plan Schedule 3

Demographic History

Schedule of Retirees, Disabled, and Beneficiaries

Valuation Date Jan 1,	Added to Rolls Count	Added to Rolls Allowances	Removed from Rolls Count	Removed from Rolls Allowances	Rolls at Valuation Date Count	Rolls at Valuation Date Annual Benefits	Average Annual Benefit	Increase in Average Benefit
2014	658	15,872,322	221	3,126,984	8,482	159,503,726	18,805	3.0%
2015	597	13,833,209	264	4,026,993	8,815	169,735,929	19,255	2.4%
2016	560	12,947,276	301	3,846,224	9,074	179,304,283	19,760	2.6%
2017	558	13,549,263	330	4,951,335	9,302	188,483,949	20,263	2.5%
2018	610	15,814,329	268	3,358,163	9,644	201,456,870	20,889	3.1%
2019	600	15,257,198	299	4,791,186	9,945	211,922,882	21,309	2.0%
2020	553	13,314,532	345	5,448,419	10,153	220,253,735	21,693	1.8%
2021	719	21,775,238	334	4,866,064	10,538	237,264,216	22,515	3.8%
2022	521	12,360,592	369	6,102,399	10,690	244,102,903	22,835	1.4%
2023	527	13,848,021	322	5,274,776	10,895	253,018,430	23,223	1.7%

Amounts for January 1, 2018 and earlier were calculated by the prior actuary.

Schedule of Active Members

January 1,	Active Members Number	Active Members % Increase	Projected Payroll $ Amount	Projected Payroll % Increase	Projected Average Payroll $ Amount	Projected Average Payroll % Increase	Average Age	Average Service
2014	8,304	1.6%	540,229,189	1.6%	65,057	0.1%	45.9	11.3
2015	8,489	2.2%	568,562,500	5.2%	66,976	3.0%	45.5	10.9
2016	8,636	1.7%	586,819,180	3.2%	67,950	1.5%	45.1	10.6
2017	8,981	4.0%	623,098,077	6.2%	69,380	2.1%	44.5	10.0
2018	9,094	1.3%	646,777,231	3.8%	71,121	2.5%	44.3	9.7
2019	9,210	1.3%	692,150,700	7.0%	75,152	5.7%	44.2	9.3
2020	9,401	2.1%	737,532,660	6.6%	78,453	4.4%	44.1	9.1
2021	8,958	-4.7%	723,324,272	-1.9%	80,746	2.9%	44.0	9.2
2022	8,751	-2.3%	729,704,460	0.9%	83,385	3.3%	44.3	9.2
2023	9,228	5.5%	843,226,068	15.6%	91,377	9.6%	44.0	8.6

This schedule does not include participants in DROP I or DROP II.

Amounts for January 1, 2018 and earlier were calculated by the prior actuary.

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Denver Employees Retirement Plan Schedule 4

Scheduled of Funded Liabilities by Type / Member Benefit Coverage Information

Pension Plan - Schedule of Funded Liabilities by Type

	Actuarial Liabilities						
	(A)	(B)	(C)				
Valuation Date January 1,	Non-Vested Member Contributions[1]	Retirees, Beneficiaries, and Term Vested	Remaining Active Members' Liabilities	Reported Assets	Portion of Actuarial Liabilities Covered by Reported Assets (A)	(B)	(C)
2014	$ 15,239,000	$ 1,793,125,000 [2]	$ 890,636,000	$ 2,062,323,000	100%	100%	29%
2015	21,758,000	1,938,787,000 [3]	933,123,000	2,132,025,000	100%	100%	18%
2016	30,578,000	2,038,925,000 [4]	934,087,000	2,168,754,000	100%	100%	11%
2017	39,110,000	2,177,513,000 [5]	958,017,000	2,207,268,000	100%	100%	0%
2018	47,644,000	2,345,254,000 [6]	965,324,000	2,272,599,000	100%	95%	0%
2019	53,342,000	2,468,387,000 [7]	1,101,941,000	2,255,412,000	100%	89%	0%
2020	58,696,000	2,554,340,000 [8]	1,114,751,000	2,300,324,000	100%	88%	0%
2021	63,042,000	2,800,846,000 [9]	1,083,780,000	2,378,772,000	100%	83%	0%
2022	64,673,000	2,855,029,000 [10]	1,093,000,000	2,480,031,000	100%	85%	0%
2023	69,210,000	2,898,424,000 [11]	1,232,344,000	2,508,204,000	100%	84%	0%

Amounts for January 1, 2018 and earlier were calculated by the prior actuary, and are based on the Projected Unit Credit actuarial cost method.

Amounts for January 1, 2019 and later were calculated by Cheiron, and are based on the Entry Age Normal actuarial cost method.

[1] Non-vested member contributions are allocated between pension and health benefits based on the proportion of total member contributions.

[2] Includes DROP accounts of $107,944,000.
[3] Includes DROP accounts of $110,655,000.
[4] Includes DROP accounts of $113,006,000.
[5] Includes DROP accounts of $116,493,000.
[6] Includes DROP accounts of $125,524,000.
[7] Includes DROP accounts of $118,078,000.
[8] Includes DROP accounts of $118,320,000.
[9] Includes DROP accounts of $122,517,000.
[10] Includes DROP accounts of $112,322,000.
[11] Includes DROP accounts of $73,691,000.

Denver Employees Retirement Plan — Schedule 4

Scheduled of Funded Liabilities by Type / Member Benefit Coverage Information

Retiree Medical Plan - Member Benefit Coverage Information

	Actuarial Liabilities[1]						
	(A)	(B)	(C)				
Valuation Date January 1,	Non-Vested Member Contributions[2]	Retirees, Beneficiaries, and Term Vested	Remaining Active Members' Liabilities	Reported Assets	Portion of Actuarial Liabilities Covered by Reported Assets (A)	(B)	(C)
2014	$ 946,000	$ 106,514,000	$ 42,322,000	$ 82,737,000	100%	77%	0%
2015	1,350,000	108,982,000	42,590,000	82,195,000	100%	74%	0%
2016	1,898,000	110,239,000	41,118,000	80,383,000	100%	71%	0%
2017	2,427,000	112,599,000	41,076,000	78,723,000	100%	68%	0%
2018	2,957,000	117,103,000	42,200,000	77,858,000	100%	64%	0%
2019	3,311,000	120,108,000	45,418,000	73,706,000	100%	59%	0%
2020	3,257,000	119,238,000	44,633,000	73,107,000	100%	59%	0%
2021	3,309,000	124,184,000	42,461,000	75,471,000	100%	58%	0%
2022	3,208,000	120,066,000	42,119,000	78,898,000	100%	63%	0%
2023	2,932,000	115,522,000	41,395,000	79,800,000	100%	67%	0%

Amounts for January 1, 2018 and earlier were calculated by the prior actuary, and are based on the Projected Unit Credit actuarial cost method.

Amounts for January 1, 2019 and later were calculated by Cheiron, and are based on the Entry Age Normal actuarial cost method.

[1] *These liabilities only represent the value of the explicit benefit without regard to the implicit rate subsidy, and therefore are not compliant with GASB No. 75.*

[2] *Member contributions are allocated between pension and health benefits based on the proportion of the total contribution.*

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Summary of Plan Provisions

All actuarial calculations are based on our understanding of the statutes governing the Denver Employees Retirement Plan, as amended and restated under Denver Municipal Code Section 18-391 through 18-430.7, with provisions adopted by the Retirement Board, effective through December 31, 2022. The benefit and contribution provisions of the Plan are summarized briefly below. This summary does not attempt to cover all the detailed provisions of the Plan.

1. Effective Date

January 1, 1963.

2. Plan Year

January 1 through December 31.

3. Type of Plan

Qualified, 401(a) governmental defined benefit retirement plan; for GASB purposes it is multi-employer cost sharing plan.

4. Eligibility Requirements

Elected Officials, Appointed Officials, and Employees as defined in Denver Municipal Code Sections 18-402 and 18-406. The Plan is closed to new Denver Health and Hospital Authority employees.

5. Credited Service

Service measured in months from date of employment to date of retirement or prior Termination.

6. Compensation

Gross pay, compensation, and salary shall mean the amount of remuneration, including wages, salaries, other amounts received for personal services actually rendered in the course of employment with the employer, and other amounts actually included or that could be included in gross income of an due to an employee, including employees on disability leave as provided for in division 4 of article V of chapter 18 of the Denver Municipal Code, or otherwise, from the employer in the full amount as calculated before any reductions or deductions are made for any purpose, including reductions or deductions by reason of sections 125, 132(f)(4) or 457 of the Internal Revenue Code, but not including distributions made from a plan of the employer designated to be eligible under section 457.

Employer provided fringe benefits receiving special tax benefits, such as premiums for group term life insurance (to the extent excludible from gross income), shall be excluded from the definition of compensation. The calendar year shall be the limitation year (determination period) for purposes of section 415 of the Internal Revenue Code.

Summary of Plan Provisions

7. Highest Average Salary (HAS)

Highest average salary during 36 (60 for members hired on or after July 1, 2011) consecutive calendar months of covered service.

8. Normal Retirement

Eligibility: For employees hired prior to July 1, 2011, attainment of age 65, or attainment of age 55 with age plus credited service equal to 75. For Employees hired July 1, 2011 or after, attainment of age 65 with five years of service, or attainment of age 60 with age plus credited service equal to 85.

Benefit: 1.5% (2.0% if hired before September 1, 2004) of HAS times credited service.

Normal Form: Single Life Annuity.

9. Early Retirement

Eligibility: Attainment of age 55 (60 for members hired on or after July 1, 2011) and completion of five years.

Benefit: Benefit accrued to date of retirement, reduced by 3% (6% for members hired on or after July 1, 2011) per year from age 65 to reflect commencement of benefit at an earlier age.

10. Temporary Early Retirement

Pending approval of a disability application, a retirement benefit is available to an active, vested member who is at least age 55 (60 for members hired on or after July 1, 2011). This benefit is designed to provide income to the member during the process of fulfilling the disability application requirements. There is a three-year limit on this retirement benefit.

11. Deferred Retirement

Eligibility: Any vested employee who terminates service for any reason other than retirement, disability or death.

Benefit: Based on the formula in effect at the time of separation from service. Payment may commence any month after the member's 55th if hired prior to July 1, 2011, or after the member's 60th birthday for members hired on or after July 1, 2011.

Summary of Plan Provisions

12. Service Connected Disability

Eligibility: Any employee who becomes totally and permanently disabled as defined in Denver Municipal Code Section 18-408(d), which arises out of and in the course of the member's employment with the employer.

Benefit: Based on the greater of 20 years of service or actual service plus 10 years. Total credited service cannot exceed the credited service the member would have earned as of age 65.

Normal Form: Single Life Annuity.

13. Non-Service Connected Disability

Eligibility: Any vested employee who becomes totally and permanently disabled as defined in Denver Municipal Code Section 18-408(e) which does not occur as a result of a service connected disability.

Benefit: The higher of 75% of the amount calculated for a service-connected disability or the amount calculated for an early retirement.

Normal Form: Single Life Annuity.

14. Death in the Life of Duty

The active member's surviving spouse is awarded the retirement benefit the member would have been entitled at their normal retirement date based on the higher of 15 years of service or actual credited service plus five years. Total credited service cannot exceed the credited service the member would have earned at age 65. If there is no surviving spouse but the member has children under age 21, then the benefit shall be paid until the youngest child becomes age 21. If there is no surviving spouse and no children under age 21, then the benefit shall be paid to a designated beneficiary.

15. Other Pre-Retirement Death

The active member's surviving spouse is awarded 75% of the benefit that would have been entitled had the death been service connected. If an active member who has attained the age of fifty five (55) or the age of sixty (60) if hired on or after July 1, 2011, dies prior to the actual retirement date, the member shall be deemed to have retired on the first day of the month following the month in which death occurs and the surviving spouse will receive an annuity as if the member had elected the 100% joint and survivor option if this will result in a greater benefit to the spouse than the above provision.

Summary of Plan Provisions

16. Post-Retirement Death

1) For Normal Retirement (with at least five years of service), Disability Retirement (after age 65), and for Temporary Early Retirement (pending approval of disability) the lump-sum death benefit is $5,000.

2) For Disability Retirement before age 65, the death benefit is 150% of the member's annualized average monthly salary, limited to $50,000. This benefit reduces to $5,000 upon the disabled member reaching age 65.

3) If hired prior to July 1, 2011, for Early Retirement, the lump-sum at age:

Age	Lump Sum
64	$4,750
63	$4,500
62	$4,250
61	$4,000
60	$3,750
59	$3,500
58	$3,250
57	$3,000
56	$2,750
55	$2,500

4) If hired on or after July 1, 2011, for Earl Retirement, the lump-sum at age:

Age	Lump Sum
64	$4,500
63	$4,000
62	$3,500
61	$3,000
60	$2,500

5) In lieu of a single lump-sum payment that would be paid upon death, a retired member may elect to receive the appropriate death benefit limited to five thousand dollars ($5,000) in the form of periodic payments.

17. Optional Forms

Joint and Survivor Options – Any employee retiring under the normal retirement provision may elect a joint and survivor benefit. The member's benefit is actuarially reduced based on their election: 100%, 75%, or 50%. Once the benefit commences, this election cannot be changed. If the spouse or designated beneficiary predeceases the member, the benefit paid to the member shall be increased to the full single straight life annuity as if no joint and survivor benefit had been selected.

Summary of Plan Provisions

18. Deferred Retirement Option Plan

DROP – From January 1, 2001 through April 30, 2003, in lieu of immediate termination of employment and receipt of a normal retirement benefit, eligible members were permitted to continue employment for four years and have their normal retirement benefit paid into the deferred retirement option plan (DROP) account, after which time the participant either terminated employment or continued to be employed and resumed regular membership with the retirement plan.

DROP II – From May 1, 2003 through September 1, 2003, in lieu of immediate termination of employment and receipt of a normal retirement benefit, eligible members were permitted to continue employment for five years and have their normal retirement benefit paid into the DROP II account after which time all participants terminated employment.

19. Other Ancillary Benefits

Social Security Make Up Benefit – For members hired before July 1, 2011 and retiring on or after January 1, 1996, an additional retirement benefit equal to the applicable percentage (per Denver Municipal Code Section 18-409(i)) of the member's estimated primary Social Security benefit, multiplied by credited service with the City/DHHA during which the contributions were made to Social Security (up to a maximum of 35 years of credited service), divided by 35. This additional benefit is payable beginning on the first day of the month after the member’s 62 birthday or the member's retirement date, whichever is later, but will not be paid before retirement benefits have begun from the Plan. Members retiring under a disability form of retirement are not eligible for this benefit.

20. Medical Benefits

Retiree Medical Plan Benefits – Participants and their surviving spouses or dependents receiving retirement benefits are eligible to elect to receive plan-provided retiree medical coverage and a plan-provided subsidy (benefit) to help provide for the payment of health insurance premiums. The Plan contributes $6.25 per month for each year of service for members who are Medicare eligible. The Plan contributes $12.50 per month for each year of service for members not eligible for Medicare.

In the event of the election of a Joint and Survivor option, the benefit is calculated based on the age of the member. If the member predeceases the joint and survivor beneficiary then the full benefit is transferred to the surviving spouse or dependent regardless of the joint and survivor election percentage.

Summary of Plan Provisions

The monthly benefit is limited to the monthly premium amount for the coverage elected. If a member dies and leaves a beneficiary who is not a spouse or dependent, that beneficiary can elect to participate in the group health plan but must pay the full cost. No plan contribution can be made for non-spouse or non-dependent beneficiaries.

21. Refunds

Eligibility: All members leaving covered employment with less than five years of service are eligible. Vested members (those with five or more years of service) may not withdraw their accumulated contributions plus interest in lieu of the deferred benefits otherwise due.

Benefit: Members who withdraw receive a lump-sum payment of his/her employee contributions, plus the interest credited on these contributions. Interest is currently credited at 1.00%.

22. Member Contributions

8.45% of compensation, effective January 1, 2023 (decreased from 8.85% effective January 1, 2022).

23. Employer Contributions

17.95% of compensation, effective January 1, 2023 for each member (increased from 16.75% effective January 1, 2022).

24. Cost of Living Increases

Given on an ad hoc basis. There have been no cost of living increases since 2002.

25. Changes Since Prior Valuation

Member Contribution Rate was decreased from 8.85% to 8.45%.

Employer Contribution Rate was increased from 16.75% to 17.95%.

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Denver Employees Retirement Plan Schedule 6

Schedule of Funding Progress

The funding ratios shown in the exhibits below are ratios compared to the Actuarial Liabilities that are intended to be a funding target and are for the purpose of evaluating funding progress in a budgeting context. These ratios are not appropriate for measuring of assessing the solvency of the Plan or the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligations.

Pension Plan - Schedule of Funding Progress

Valuation Date January 1,	Actuarial Value of Assets	Actuarial Liability (AL)	Unfunded AL	Funded Ratio	Covered Payroll	Unfunded AL as a % of Covered Payroll
2014	$ 2,062,323,000	$ 2,699,000,000	$ 636,677,000	76.4%	$ 540,229,000	117.9%
2015	2,132,025,000	2,893,668,000	761,643,000	73.7%	568,563,000	134.0%
2016	2,168,754,000	3,003,590,000	834,836,000	72.2%	586,819,000	142.3%
2017	2,207,268,000	3,174,640,000	967,372,000	69.5%	623,098,000	155.3%
2018	2,272,599,000	3,358,222,000	1,085,623,000	67.7%	646,777,000	167.9%
2019	2,255,412,000	3,623,670,000	1,368,258,000	62.2%	692,151,000	197.7%
2020	2,300,324,000	3,727,787,000	1,427,463,000	61.7%	732,075,000	195.0%
2021	2,378,772,000	3,947,667,000	1,568,895,000	60.3%	719,481,000	218.1%
2022	2,480,031,000	4,012,702,000	1,532,671,000	61.8%	725,590,000	211.2%
2023	2,508,204,000	4,199,978,000	1,691,774,000	59.7%	839,784,000	201.5%

Amounts for January 1, 2018 and earlier were calculated by the prior actuary, and are based on the Projected Unit Credit actuarial cost method.

Amounts for January 1, 2019 and later were calculated by Cheiron, and are based on the Entry Age Normal actuarial cost method.

Retiree Medical Plan - Schedule of Funding Progress

Valuation Date January 1,	Actuarial Value of Assets	Actuarial Liability (AL)	Unfunded AL	Funded Ratio	Covered Payroll	Unfunded AL as a % of Covered Payroll
2014	$ 82,737,000	$ 149,782,000	$ 67,045,000	55.2%	$ 540,229,000	12.4%
2015	82,195,000	152,922,000	70,727,000	53.7%	568,563,000	12.4%
2016	80,383,000	153,255,000	72,872,000	52.5%	586,819,000	12.4%
2017	78,723,000	156,102,000	77,379,000	50.4%	623,098,000	12.4%
2018	77,858,000	162,260,000	84,402,000	48.0%	646,777,000	13.0%
2019	73,706,000	168,837,000	95,131,000	43.7%	692,151,000	13.7%
2020	73,107,000	167,128,000	94,021,000	43.7%	732,075,000	12.8%
2021	75,471,000	169,954,000	94,483,000	44.4%	719,481,000	13.1%
2022	78,898,000	165,393,000	86,495,000	47.7%	725,590,000	11.9%
2023	79,800,000	159,848,000	80,048,000	49.9%	839,784,000	9.5%

Amounts for January 1, 2018 and earlier were calculated by the prior actuary, and are based on the Projected Unit Credit actuarial cost method.

Amounts for January 1, 2019 and later were calculated by Cheiron, and are based on the Entry Age Normal actuarial cost method.

These liabilities represent solely the value of the explicit benefit, without regard to the implicit rate subsidy. The explicit benefit is valued in compliance with all the parameters established by GASB Statements No. 74 and No. 75. The value of any implicit rate subsidy in the city-sponsored health plans will be illustrated in the separate disclosures related to those plans.

CHEIRON

Note: The Actuarially Determined Contributions compared to the actual contributions paid, including the deficiency or (excess), for each of the last 10 years, is shown in the Schedule of Employer Contributions, found on page 43 in the Required Supplementary Information (RSI) in the Financial Section.

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Statistical Section

This section of our Annual Comprehensive Financial Report presents detailed information to assist the reader in understanding what the information in the financial statements, note disclosures, and required supplementary information indicate about our overall financial status.

Overview

The objective of the Statistical Section is to provide additional historical detailed information to assist the reader in understanding what the information in the financial statements, note disclosure, and required supplementary information indicate about our overall financial status.

Financial Trends

The following schedules show trend information about the changes and growth in our fiduciary net position over the last 10 years:

- Changes in Fiduciary Net Position – Pension Benefits and Health Benefits
- Schedule of Benefit Expenses by Type

Operating Information

The following schedules contain information related to the services we provide and the activities we perform:

- Schedule of Pension Benefits by Type of Retirement
- Schedule of Health Benefits by Type
- Schedule of Retirements by Attained Age and Type of Retirement
- Average Monthly Benefit Processed During the Year – Pension (last 10 years)
- Average Monthly Benefit Payment – Health Insurance Premium Reduction (last 10 years)
- Principal Participating Employers

Demographic

Demographic information is designed to provide additional information of our retired members and beneficiaries.

- Location of Retirees and Beneficiaries

The material in this section is derived from internal sources and intended to supplement the independent auditor's report. None of the information within the Statistical Section has been reviewed or audited for accuracy by our auditors.

Statistical Section

Changes in Fiduciary Net Position

Last Ten Fiscal Years

	2014	2015	2016	2017
Pension Benefits				
Additions				
Employee contributions (1)	$ 39,521,451	(2) $ 46,689,696	(3) $ 48,037,800	$ 50,599,952
Employer contributions (1)	59,941,041	67,234,597	68,794,871	71,731,309
Investment earnings (net of expenses)	101,595,703	(35,746,029)	147,443,477	302,942,063
Total additions to fiduciary net position	**201,058,195**	**78,178,264**	**264,276,148**	**425,273,324**
Deductions				
Benefit payments	171,178,475	181,827,975	191,790,600	204,064,502
Refunds	1,507,554	2,164,104	2,751,016	3,547,888
Administrative expenses	3,638,296	3,785,416	3,742,451	3,899,901
Total deductions from fiduciary net position	**176,324,325**	**187,777,495**	**198,284,067**	**211,512,291**
Change in fiduciary net position	**$ 24,733,870**	**$ (109,599,231)**	**$ 65,992,081**	**$ 213,761,033**
Health Benefits				
Additions				
Employee contributions (1)	$ 2,725,316	$ 3,026,103	$ 3,012,052	$ 3,005,989
Employer contributions (1)	4,332,376	4,380,107	4,364,140	4,367,474
Investment earnings (net of expenses)	3,966,864	(1,308,528)	5,225,319	10,422,137
Total additions to fiduciary net position	**11,024,556**	**6,097,682**	**12,601,511**	**17,795,600**
Deductions				
Benefit payments	12,846,786	12,905,247	12,859,361	13,049,162
Refunds	58,314	80,925	98,273	121,860
Administrative expenses	140,710	141,296	133,511	133,959
Total deductions from fiduciary net position	**13,045,810**	**13,127,468**	**13,091,145**	**13,304,981**
Change in fiduciary net position	**$ (2,021,254)**	**$ (7,029,786)**	**$ (489,634)**	**$ 4,490,619**

(1) Employer and employee contributions are made in accordance with rates set by city ordinance. The contribution rate has been actuarially determined by an independent actuary to be sufficient to accumulate assets necessary to pay the actuarial liability when due.

(2) Effective January 1, 2014, the employer and employee contributions increased to 11.20% and 7.30%, respectively.

(3) Effective January 1, 2015, the employer and employee contributions increased to 11.20% and 8.00%, respectively.

(4) Effective January 1, 2018, the employer and employee contributions increased to 12.50% and 8.00%, respectively.

(5) Effective January 1, 2019, the employer and employee contributions increased to 13.50% and 8.50%, respectively.

(6) Effective January 1, 2020, the employer and employee contributions increased to 15.75% and 9.25%, respectively.

(7) Effective January 1, 2022, the employer contributions increased to 16.75% and employee contributions decreased to 8.85%.

(8) Effective January 1, 2023, the employer contributions increased to 17.95% and employee contributions decreased to 8.45%.

2018	2019	2020	2021	2022	2023
$ 52,700,679	$ 60,074,876 (5)	$ 63,816,511 (6)	$ 62,604,568	$ 69,032,726 (7)	$ 72,767,009 (8)
81,719,744	87,464,822	105,863,173	110,464,999	129,691,985	153,099,371
(73,146,389)	284,110,225	180,417,580	393,528,947	(236,295,665)	219,192,358
61,274,034	**431,649,923**	**350,097,264**	**566,598,514**	**(37,570,954)**	**445,058,738**
215,658,138	226,412,949	232,594,284	256,073,669	288,651,955	272,498,619
4,348,592	5,309,546	4,833,725	7,505,752	8,874,264	6,394,828
4,016,288	4,123,494	4,465,837	4,657,946	4,657,712	5,142,533
224,023,018	**235,845,989**	**241,893,846**	**268,237,367**	**302,183,931**	**284,035,980**
$ (162,748,984)	**$ 195,803,934**	**$ 108,203,418**	**$ 298,361,147**	**$ (339,754,885)**	**$ 161,022,758**
$ 3,132,783	$ 3,310,427	$ 4,029,080	$ 3,820,520	$ 3,396,199	$ 3,021,111
4,952,754	5,084,799	6,870,452	6,805,263	6,453,727	6,485,052
(2,364,015)	9,185,163	5,687,451	12,459,533	(7,525,232)	6,698,407
5,721,522	**17,580,389**	**16,586,983**	**23,085,316**	**2,324,694**	**16,204,570**
12,905,976	12,951,302	12,976,448	12,999,600	12,652,365	12,230,165
144,189	171,219	153,085	237,527	279,550	200,207
133,128	133,008	141,397	147,406	146,756	161,016
13,183,293	**13,255,529**	**13,270,930**	**13,384,533**	**13,078,671**	**12,591,388**
$ (7,461,771)	**$ 4,324,860**	**$ 3,316,053**	**$ 9,700,783**	**$ (10,753,977)**	**$ 3,613,182**

Statistical Section

Schedule of Benefit Expenses by Type

Last Ten Fiscal Years

	2014	2015	2016	2017
Pension Benefits				
Normal and Early Benefits				
Retirees	$ 146,505,901	$ 156,519,225	$ 165,246,685	$ 175,893,606
Beneficiaries	7,274,571	7,755,324	8,482,372	9,001,245
Death Benefits	3,965,980	4,054,992	4,135,128	4,248,073
Disability Benefits				
Retirees				
On-the-Job	844,509	879,295	917,075	913,151
Off-the-Job	4,018,848	3,977,212	4,122,190	4,019,183
Beneficiaries	1,433,661	1,535,422	1,569,064	1,615,969
Lump Sum Death Benefits	1,415,762	1,324,545	1,615,976	1,561,969
Pension Benefits Total	165,459,232	176,046,015	186,088,490	197,253,196
Health Benefits	12,846,786	12,905,247	12,859,360	13,049,162
DROP Distributions	5,719,243	5,781,960	5,702,111	6,811,306
Pension Contribution Refunds				
Separation	1,507,554	2,162,575	2,671,771	3,434,692
Death	—	1,529	2,616	17,882
Health Contribution Refunds				
Separation	58,314	80,868	174,731	216,049
Death	—	57	171	1,125

2018	2019	2020	2021	2022	2023
$ 185,677,299	$ 195,391,329	$ 204,242,772	$ 216,078,624	$ 223,295,564	$ 230,036,566
9,413,450	10,222,476	11,309,771	12,248,632	13,139,641	14,339,214
4,320,956	4,392,797	4,616,997	4,494,804	4,723,939	4,728,674
1,003,139	926,796	1,077,114	878,069	996,045	968,573
3,936,771	3,925,053	3,823,114	3,792,467	3,635,930	3,556,312
1,698,309	1,805,386	1,793,476	1,829,505	2,024,426	2,091,975
1,466,130	1,459,441	1,254,830	1,489,888	1,333,430	1,165,176
207,516,054	218,123,278	228,118,074	240,811,989	249,148,975	256,886,490
12,905,976	12,951,302	12,976,448	12,999,600	12,652,365	12,230,165
8,142,084	8,289,671	4,476,210	15,261,680	39,502,980	15,612,129
4,226,993	5,178,686	4,771,796	7,332,167	8,812,684	6,287,689
3,892	—	61,929	23,949	61,580	107,139
261,655	302,079	149,826	385,903	276,309	195,673
241	—	3,259	1,260	3,241	4,534

Schedule of Pension Benefits by Type of Retirement

December 31, 2023

		Type of Retirement*							Option Selected**			
Amount of Monthly Benefit	Number of Retirees and Beneficiaries	1	2	3	4	5	6	7	1	2	3	4
$ 1 - 50	56	48	4	—	—	1	3	—	48	3	1	4
51 - 100	82	54	5	—	—	9	14	—	46	29	1	6
101 - 150	246	199	7	1	1	12	26	—	131	98	5	12
151 - 200	264	204	23	—	—	14	22	1	140	99	7	18
201 - 250	341	258	35	—	—	17	30	1	186	115	13	27
251 - 300	350	258	32	—	3	20	35	2	190	133	10	17
301 - 350	315	220	30	—	4	26	29	6	179	104	12	20
351 - 400	280	195	32	1	6	20	22	4	161	79	15	25
401 - 450	271	195	32	—	4	15	19	6	144	85	14	28
451 - 500	271	185	29	—	11	15	27	4	148	90	13	20
501 - 600	489	295	82	1	17	31	49	14	244	166	28	51
601 - 700	413	265	54	1	13	20	46	14	215	121	27	50
701 - 800	368	213	48	2	18	15	55	17	167	121	31	49
801 - 900	339	229	45	2	11	18	27	7	172	113	23	31
901 - 1,000	310	208	23	1	15	17	32	14	156	85	25	44
1,001 - 1,100	333	215	29	1	11	15	53	9	164	105	22	42
1,101 - 1,200	321	224	27	—	11	10	35	14	151	102	25	43
1,201 - 1,300	286	196	19	4	8	14	40	5	141	84	25	36
1,301 - 1,400	256	173	16	2	11	6	37	11	126	70	25	35
1,401 - 1,500	254	194	9	1	8	15	24	3	137	65	22	30
1,501 - 1,600	261	206	11	1	6	10	25	2	153	59	30	19
1,601 - 1,700	237	188	6	3	7	10	20	3	124	55	24	34
1,701 - 1,800	231	188	3	—	8	13	17	2	126	44	25	36
1,801 - 1,900	242	210	4	1	5	5	17	—	130	56	26	30
1,901 - 2,000	221	194	2	—	5	5	13	2	115	53	15	38
2,001 - 2,500	909	758	12	5	24	23	78	9	379	291	102	137
2,501 - 3,000	747	674	3	4	8	6	49	3	321	218	85	123
3,001 - 3,500	609	558	1	3	3	10	30	4	237	185	70	117
3,501 - 4,000	465	437	2	1	2	3	19	1	206	134	43	82
4,001 - 4,500	341	328	—	1	1	4	7	—	153	90	23	75
4,501 - 5,000	271	258	—	—	—	4	9	—	133	79	20	39
5,001 - 5,500	180	173	—	—	1	3	3	—	79	55	13	33
5,501 - 6,000	139	129	—	2	—	3	5	—	64	44	12	19
6,001 - 6,500	84	82	—	—	—	—	2	—	37	27	5	15
6,501 - 7,000	72	70	—	—	—	—	2	—	30	24	5	13
7,001 - 7,500	72	69	—	—	—	—	3	—	25	23	9	15
7,501 - 8,000	41	41	—	—	—	—	—	—	20	11	4	6
8,001 - 8,500	27	24	—	—	—	1	2	—	10	10	5	2
$ 8,501 - over	93	86	—	1	2	—	3	1	28	29	16	20
Totals	**11,087**	**8,701**	**625**	**39**	**224**	**410**	**929**	**159**	**5,416**	**3,354**	**876**	**1,441**

* Type of Retirement:

1. Normal Retirement for Age and Service
2. Early Retirement
3. Disability – On-the-Job
4. Disability – Off-the-Job
5. Beneficiary Payment – Death Benefits
6. Beneficiary Payment – Normal or Early Retirement
7. Beneficiary Payment – Disability Retirement

**Option Selected:

1. Maximum
2. 100% Joint and Survivor
3. 75% Joint and Survivor
4. 50% Joint and Survivor

Schedule of Health Benefits by Type

December 31, 2023

Non Medicare-eligible (1) Amount of Reduction Eligible to Receive	Number of Retirees/ Beneficiaries
$ 12.50 - 50.00	73
51.00 - 100.00	261
101.00 - 150.00	254
151.00 - 200.00	168
201.00 - 250.00	155
251.00 - 300.00	180
301.00 - 350.00	213
351.00 - 400.00	168
401.00 - 450.00	95
451.00 - 500.00	24
501.00 - 550.00	9
551.00 - 600.00	3
601.00 - 650.00	3
651.00 - 700.00	1
701.00 - 750.00	—
751.00 - 800.00	1
$ 801.00-over	1
Total	**1,609**

Medicare-eligible (2) Amount of Reduction Eligible to Receive	Number of Retirees/ Beneficiaries
$ 6.25 - 50.00	756
51.00 - 100.00	1,497
101.00 - 150.00	1,382
151.00 - 200.00	1,334
201.00 - 250.00	455
251.00 - 300.00	38
301.00 - 350.00	20
351.00 - 400.00	9
401.00 - 450.00	4
451.00 - 500.00	3
501.00 - 550.00	—
551.00 - 600.00	1
601.00 - 650.00	—
651.00 - 700.00	—
701.00 - 750.00	1
751.00 - 800.00	—
$ 801.00 - over	1
Total	**5,501**

Type of Benefit:

(1) Participants who are not Medicare-eligible are eligible for health/dental insurance premium reduction equal to $12.50 per month for each year of service.

(2) Participants who are Medicare-eligible are eligible for health/dental insurance premium reduction equal to $6.25 per month for each year of service.

Note: In some instances, the years of service of spouses may have been combined when determining the amount of benefit.

Schedule of Retirements by Attained Age and Type of Retirement

December 31, 2023

		Type of Retirement*						
Age	**Number of Retirees and Beneficiaries**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
0 - 24	31	—	—	—	1	26	3	1
25 - 29	14	—	—	—	—	6	6	2
30 - 34	27	—	—	—	—	7	11	9
35 - 39	23	—	—	—	1	11	9	2
40 - 44	38	—	—	1	—	15	15	7
45 - 49	37	1	—	—	3	14	13	6
50 - 54	80	7	—	1	15	31	18	8
55 - 59	978	859	17	—	18	43	33	8
60 - 64	1,522	1,297	74	8	36	51	49	7
65 - 69	2,246	1,878	114	6	54	72	102	20
70 - 74	2,355	1,953	116	15	41	55	145	30
75 - 79	1,790	1,392	139	2	33	42	160	22
80 - 84	1,012	716	92	1	14	14	151	24
85 - 89	542	348	52	3	6	16	110	7
90 - 94	288	189	13	2	2	4	73	5
95 and up	104	61	8	—	—	3	31	1
Totals	**11,087**	**8,701**	**625**	**39**	**224**	**410**	**929**	**159**

***Type of Retirement:**

1. Normal Retirement for Age and Service
2. Early Retirement
3. Disability – On-the-Job
4. Disability – Off-the-Job
5. Beneficiary Payment – Death Benefits
6. Beneficiary Payment – Normal or Early Retirement
7. Beneficiary Payment – Disability Retirement

Average Monthly Benefit Processed During the Year – Pension

Last Ten Fiscal Years

Retirement Effective Date for the Years Ended December 31	Years of Credited Service 0-5	6-10	11-15	16-20	21-25	26-30	31+	Total
2014								
Average Monthly Benefit	$236.76	$457.19	$1,130.46	$2,076.25	$3,135.95	$3,815.05	$4,512.90	$2,194.94
Mean Final Average Monthly Salary	$3,461.08	$4,024.75	$5,225.31	$6,393.35	$6,795.95	$7,206.76	$6,749.41	$5,693.80
Number of Retirements	36	126	79	92	72	54	55	514
2015								
Average Monthly Benefit	$321.79	$535.69	$1,172.21	$2,366.45	$2,919.18	$3,513.48	$4,821.40	$2,235.74
Mean Final Average Monthly Salary	$4,214.31	$4,311.94	$5,332.13	$6,817.83	$6,363.86	$6,703.53	$7,400.13	$5,877.68
Number of Retirements	24	96	100	79	80	63	57	499
2016								
Average Monthly Benefit	$266.14	$507.61	$937.86	$2,092.13	$3,076.03	$3,923.10	$4,913.50	$2,245.20
Mean Final Average Monthly Salary	$3,592.82	$4,238.98	$4,429.35	$6,410.25	$6,517.95	$7,019.04	$7,287.40	$5,642.26
Number of Retirements	33	81	66	93	87	58	41	459
2017								
Average Monthly Benefit	$307.87	$614.46	$970.75	$2,185.44	$3,034.32	$3,940.37	$5,282.81	$2,333.72
Mean Final Average Monthly Salary	$4,056.40	$4,695.63	$4,610.13	$6,591.06	$6,936.58	$7,615.46	$8,152.56	$6,093.97
Number of Retirements	29	100	71	106	81	64	80	531
2018								
Average Monthly Benefit	$303.61	$571.19	$1,171.03	$2,088.90	$2,972.35	$4,651.16	$4,937.44	$2,385.10
Mean Final Average Monthly Salary	$4,031.18	$4,366.05	$5,876.33	$6,159.74	$6,597.69	$8,893.55	$7,809.30	$6,247.69
Number of Retirements	35	101	67	82	69	66	61	481
2019								
Average Monthly Benefit	$309.63	$566.25	$1,161.47	$2,385.78	$3,199.41	$4,016.27	$5,850.66	$2,498.49
Mean Final Average Monthly Salary	$4,124.93	$4,452.82	$5,780.38	$6,867.69	$7,234.90	$7,563.72	$8,462.15	$6,355.23
Number of Retirements	36	77	87	82	55	56	46	439
2020								
Average Monthly Benefit	$282.10	$576.28	$1,096.89	$2,378.30	$3,225.77	$4,612.82	$5,534.90	$2,529.58
Mean Final Average Monthly Salary	$3,330.75	$4,192.21	$5,524.10	$6,972.69	$7,022.33	$8,380.70	$8,271.98	$6,242.11
Number of Retirements	35	81	84	106	114	98	90	608
2021								
Average Monthly Benefit	$336.28	$547.07	$1,147.79	$2,425.76	$3,741.65	$4,711.65	$4,388.36	$2,471.22
Mean Final Average Monthly Salary	$4,299.80	$4,661.48	$5,723.78	$7,688.27	$8,541.19	$8,856.93	$6,506.68	$6,611.16
Number of Retirements	31	85	76	54	67	57	24	394
2022								
Average Monthly Benefit	$333.16	$656.57	$1,199.23	$2,147.99	$3,405.38	$4,955.69	$6,431.74	$2,732.82
Mean Final Average Monthly Salary	$4,167.50	$5,092.78	$6,028.22	$7,086.82	$8,062.38	$9,626.28	$9,807.94	$7,124.56
Number of Retirements	41	103	61	55	65	58	39	422
2023								
Average Monthly Benefit	$371.46	$620.02	$1,351.55	$2,135.05	$3,567.42	$5,475.53	$4,887.97	$2,629.86
Mean Final Average Monthly Salary	$4,648.39	$4,866.69	$6,320.19	$7,080.48	$8,460.55	$10,373.53	$8,169.34	$7,131.31
Number of Retirements	43	121	62	56	60	45	30	417

Average Monthly Benefit Payment – Health Insurance Premium Reduction

Last Ten Fiscal Years

	Years of Credited Service							
As of December 31	1-5	6-10	11-15	16-20	21-25	26-30	31+	Total
2014								
Avg. Monthly Premium Reduction	$5,479.72	$34,538.29	$79,741.06	$166,663.15	$214,239.85	$267,381.50	$341,055.39	$1,109,098.96
Average Monthly Benefit Paid	$38.05	$60.17	$90.31	$139.35	$177.79	$229.12	$300.22	$175.91
Number of Retirees/Beneficiaries	144	574	883	1,196	1,205	1,167	1,136	6,305
2015								
Avg. Monthly Premium Reduction	$5,678.16	$36,042.85	$81,626.26	$168,577.92	$214,334.80	$266,579.67	$343,191.32	$1,116,030.98
Average Monthly Benefit Paid	$37.85	$60.37	$89.01	$134.86	$172.71	$223.27	$292.83	$171.14
Number of Retirees/Beneficiaries	150	597	917	1,250	1,241	1,194	1,172	6,521
2016								
Avg. Monthly Premium Reduction	$5,819.39	$36,469.96	$81,644.92	$169,995.87	$218,240.60	$267,517.16	$338,369.62	$1,118,057.52
Average Monthly Benefit Paid	$37.79	$59.11	$88.74	$132.50	$169.44	$218.38	$283.63	$167.37
Number of Retirees/Beneficiaries	154	617	920	1,283	1,288	1,225	1,193	6,680
2017								
Avg. Monthly Premium Reduction	$6,116.13	$35,568.50	$79,516.08	$164,180.00	$208,031.27	$257,990.76	$326,843.59	$1,078,246.33
Average Monthly Benefit Paid	$38.23	$59.18	$88.55	$130.20	$166.03	$215.53	$277.69	$164.69
Number of Retirees/Beneficiaries	160	601	898	1,261	1,253	1,197	1,177	6,547
2018								
Avg. Monthly Premium Reduction	$6,096.40	$38,086.82	$80,149.33	$173,116.33	$221,293.95	$275,968.84	$347,532.44	$1,142,244.11
Average Monthly Benefit Paid	$36.95	$58.15	$84.81	$126.36	$164.16	$214.10	$270.24	$161.84
Number of Retirees/Beneficiaries	165	655	945	1,370	1,348	1,289	1,286	7,058
2019								
Avg. Monthly Premium Reduction	$6,097.56	$38,623.27	$80,951.33	$170,221.11	$218,728.91	$271,553.26	$337,493.83	$1,123,669.27
Average Monthly Benefit Paid	$37.18	$57.05	$84.32	$123.89	$159.31	$207.45	$257.43	$156.76
Number of Retirees/Beneficiaries	164	677	960	1,374	1,373	1,309	1,311	7,168
2020								
Avg. Monthly Premium Reduction	$6,362.16	$38,453.43	$80,149.75	$173,714.10	$227,910.50	$279,923.61	$348,419.64	$1,154,933.19
Average Monthly Benefit Paid	$37.42	$56.14	$83.32	$121.82	$159.27	$206.74	$253.77	$156.05
Number of Retirees/Beneficiaries	170	685	962	1,426	1,431	1,354	1,373	7,401
2021								
Avg. Monthly Premium Reduction	$6,300.84	$37,520.77	$79,360.31	$167,607.91	$227,624.26	$274,548.92	$332,090.16	$1,125,053.17
Average Monthly Benefit Paid	$36.21	$55.10	$82.67	$118.20	$157.09	$201.87	$243.29	$151.89
Number of Retirees/Beneficiaries	174	681	960	1,418	1,449	1,360	1,365	7,407
2022								
Avg. Monthly Premium Reduction	$6,155.98	$37,511.40	$77,985.78	$161,414.03	$222,181.75	$268,736.28	$317,432.01	$1,091,417.23
Average Monthly Benefit Paid	$34.78	$54.44	$81.15	$115.30	$153.87	$196.73	$230.52	$147.21
Number of Retirees/Beneficiaries	177	689	961	1,400	1,444	1,366	1,377	7,414
2023								
Avg. Monthly Premium Reduction	$6,268.74	$37,671.49	$76,261.04	$154,128.16	$217,720.69	$262,428.98	$302,871.21	$1,057,350.31
Average Monthly Benefit Paid	$35.22	$54.05	$79.94	$111.44	$150.57	$192.11	$222.21	$143.14
Number of Retirees/Beneficiaries	178	697	954	1,383	1,446	1,366	1,363	7,387

Principal Participating Employers

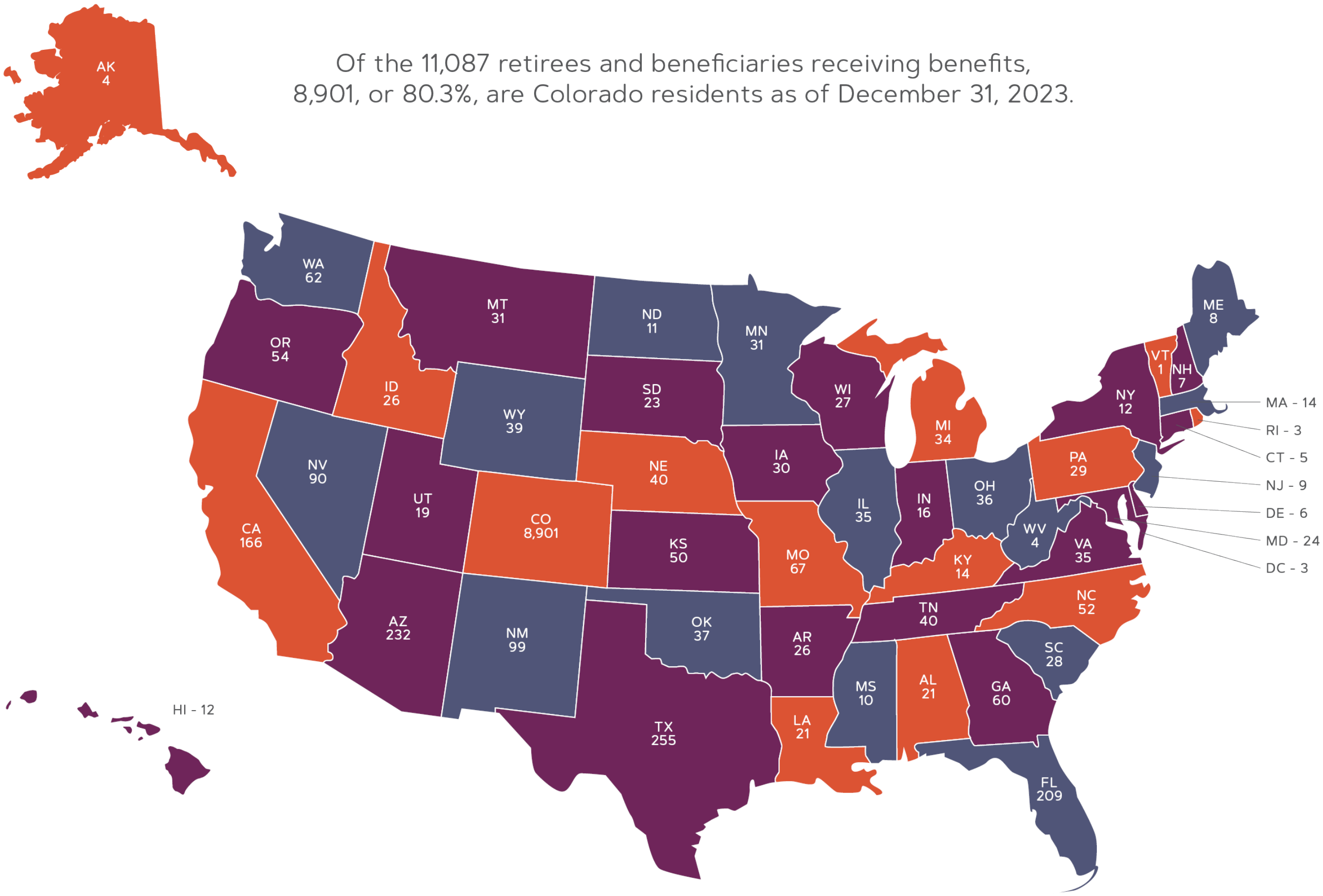
Current Year and Nine Years Ago

	2023			2014		
	Covered Employees	Rank	Percentage of Total System	Covered Employees	Rank	Percentage of Total System
Pension Benefits						
Participating Government						
City and County of Denver	27,074	1	95.4 %	21,276	1	93.5 %
Denver Health and Hospital Authority	1,310	2	4.6 %	1,470	2	6.5 %
Total	**28,384**		**100.0 %**	**22,746**		**100.0 %**
Health Benefits						
Participating Government						
City and County of Denver	23,603	1	95.4 %	21,276	1	93.5 %
Denver Health and Hospital Authority	1,142	2	4.6 %	1,470	2	6.5 %
Total	**24,745**		**100.0 %**	**22,746**		**100.0 %**

Statistical Section

Location of Retirees and Beneficiaries

Of the 11,087 retirees and beneficiaries receiving benefits, 8,901, or 80.3%, are Colorado residents as of December 31, 2023.



Other Countries and Territories

Australia	2
Canada	2
Costa Rica	2
Germany	1
Israel	2
Japan	1
Mexico	2
New Zealand	1
Philippines	1
Poland	1
United Kingdom	3

Armed Forces

Africa, Canada, Europe, or Middle East	1

Denver Employees Retirement Plan

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