PUBLIC EMPLOYEES RETIREMENT ASSOCIATION

2023
ANNUAL COMPREHENSIVE FINANCIAL REPORT

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Public Employees Retirement Association of Minnesota

Pension Trust Funds of the State of Minnesota

Annual Comprehensive Financial Report

For the Fiscal Year Ended June 30, 2023

Executive Director
Doug Anderson

Prepared by PERA Finance Division.

Member of Government Finance Officers Association of the United States and Canada.

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2023 ANNUAL COMPREHENSIVE FINANCIAL REPORT

Achievement Award

Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

Public Employees Retirement Association of Minnesota

For its Annual Comprehensive Financial Report For the Fiscal Year Ended

June 30, 2022

Christopher P. Morrill

Executive Director/CEO

Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to Public Employees Retirement Association (PERA) for its *Annual Comprehensive Financial Report* for the fiscal year ended June 30, 2022. In order to be awarded a Certificate of Achievement, a government must publish an easily-readable and efficiently-organized *Annual Comprehensive Financial Report.* This report must satisfy both generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year only. We believe that our current *Annual Comprehensive Financial Report* will continue to meet the Certificate of Achievement Program's requirements and we plan to submit it to GFOA to determine its eligibility for another certificate.

Achievement Award

Government Finance Officers Association

Award for
Outstanding
Achievement in
Popular Annual
Financial Reporting

Presented to

Public Employees Retirement Association of Minnesota

For its Annual Financial Report
For the Fiscal Year Ended

June 30, 2022

Christopher P. Morrill

Executive Director/CEO

Government Finance Officers Association of the United States and Canada (GFOA) awarded an Award for Outstanding Achievement in Popular Annual Financial Reporting to Public Employees Retirement Association (PERA) for its *Popular Annual Financial Report* for the fiscal year ended June 30, 2022. The award is a prestigious national award recognizing conformance with the highest standards for preparation of 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,* the contents of which must conform to program standards of creativity, presentation, understandability, and reader appeal.

This award is valid for a period of one year only. We believe our current report will continue to conform to the Popular Annual Financial requirements, and we plan to submit it to GFOA to determine its eligibility for another award.

Achievement Award

Public Pension Coordinating Council

Recognition Award for Administration
2023

Presented to

Minnesota Public Employee Retirement Association

In recognition of meeting professional standards for
plan administration as
set forth in the Public Pension Standards.

Presented by the Public Pension Coordinating Council, a confederation of

National Association of State Retirement Administrators (NASRA)
National Conference on Public Employee Retirement Systems (NCPERS)
National Council on Teacher Retirement (NCTR)

Alan H. Winkle
Program Administrator

PERA received the 2023 Public Pension Standards Award for Administration from the Public Pension Coordinating Council (PPCC). To receive the Administration Award, the retirement system must meet the requirements in the five areas of comprehensive benefit program, actuarial, audit, investments, and communications. The PPCC is a coalition that represent public retirement systems in the United States.

Letter of Transmittal

December 21, 2023

Board of Trustees
Public Employees Retirement Association of Minnesota
60 Empire Drive, Suite 200
St. Paul, Minnesota 55103

Dear PERA trustees and members:
On behalf of the management and staff of the Minnesota Public Employees Retirement Association (PERA), it is our pleasure to present the *Annual Comprehensive Financial Report* (ACFR). This document reflects the results of activities undertaken by PERA for the fiscal year ended June 30, 2023.

For PERA, fiscal year 2023 is marked by the passage of significant legislation that advances PERA's mission to administer and promote sustainable retirement plans and provide services our members value. The legislation included the following:

- Reduction of the Statutorily-Established Investment Rate of Return: In fiscal year 2022, PERA's actuaries determined, for the second year in a row, that the statutorily established investment rate return assumption of 7.5% deviates materially from the guidance set forth in the *Actuarial Standards of Practice.* PERA's Board advocated for a lowering of the assumption to a rate considered reasonable by our actuary and the legislature reduced the statutorily-established investment rate of return from 7.5% to 7%. PERA's actuaries determined that the 7% investment rate of return assumption is reasonable. By using a reasonable investment rate of return, PERA can work with the legislature to ensure decisions made promote sustainable retirement plans.

- One-time State Aid: The State of Minnesota saw a budget surplus in fiscal year 2023. The legislature earmarked a portion of the surplus for PERA and solicited input from PERA regarding the use of those funds. To further its mission to administer and promote sustainable retirement plans, PERA suggested the one-time state aid be used to reduce the net pension liability. The legislature appropriated $170 million to the General Employees Plan, almost $19.4 million to the Police & Fire Plan, and over $5.2 million to the Correctional Plan to reduce the net pension liability. The one-time funding was used to reduce the net pension liability and to fully fund a one-time cost-of-living adjustment to benefit recipients in fiscal year 2024.

- Police & Fire Plan Treatment Requirement: For over ten years, the Police & Fire Plan has experienced increasing disability rates specifically for duty disability associated with a psychological condition. The high disability rates adversely impact the sustainability of the plan. If the higher statewide disability trend persists, PERA actuaries expect the cost to increase by about $40 million, or 4% of payroll. This additional cost could force an increase in contribution rates on both employer and employees and make it difficult to provide cost-of-living adjustments to benefit recipients. The legislature included provisions that require an applicant for duty disability based on a psychological condition to complete required treatment prior to being eligible to apply for a duty disability benefit.

Letter of Transmittal

Fiscal year 2023 also ushered in stability in the investment market after a year of significant volatility. The investment rate of return increased from –6.4% for fiscal year 2022 to 8.9% for fiscal year 2023.

Overview of PERA

PERA provides retirement, disability, and survivor benefits to Minnesota public employees. Created by legislation on April 24, 1931, PERA began operations on July 1, 1931, prior to the Social Security Administration. Currently, PERA administers three cost-sharing, multiple-employer defined benefit retirement plans: the General Employees Plan, the Police & Fire Plan, and the Correctional Plan. PERA also administers one agent, multiple-employer defined benefit plan, the Statewide Volunteer Firefighter Plan, and one defined contribution plan, the Defined Contribution Plan. Additional information about the plans can be found in the Notes to the Financial Statements beginning on page 29.

For the defined benefit plans, PERA serves over 477,500 members, including 133,500 retirees and beneficiaries. In addition, PERA works with over 2,800 employers. The fiduciary net position for the defined benefit plans is almost $39.8 billion as of June 30, 2023. For its defined contribution plan, PERA serves approximately 8,200 members and 1,100 employers. The fiduciary net position for the defined contribution plan is $89.7 million.

Investments

The State Board of Investment (SBI) invests the assets of PERA's retirement plans. All investments undertaken by SBI are governed by the prudent person rule and other standards set forth in Minnesota Statutes Chapters 11A and 356A. Additional information about SBI and the investment policies, strategies, safeguards, activities, and returns can be found in the Investment Section beginning on page 93.

For PERA's three cost-sharing, multiple-employer defined benefit plans, SBI commingles those plan assets along with the assets of the Minnesota State Retirement System and the Teachers Retirement Association into the Combined Funds to capture investment efficiencies. In 2018, SBI adopted a set of Investment Beliefs for managing the assets of the Combined Funds, which include a long-term investment focus while ensuring the ability to pay benefits and a primary mission to maintain the viability of the retirement systems. The Combined Funds assets are allocated in public equity (domestic and international), fixed income, and private markets.

For PERA's agent, multiple-employer defined benefit plan, SBI invests those plan assets into the Volunteer Firefighter Account, which is a diversified portfolio of public equity (domestic and international), fixed income, and cash. The goal is to offer a balanced investment approach that will provided favorable long-term risk-adjusted returns.

As noted above, fiscal year 2023 was marked by positive investment returns that exceed the benchmarks. Figure 1 below shows those positive investment returns compared to benchmarks for the PERA defined benefit plans. The investment returns presented are based on year-to-date, time-weighted returns.

Figure 1. Investment returns compared to benchmarks—PERA defined benefit plans.

Investment Returns Compared to Benchmarks—PERA Defined Benefit Plans
Fiscal Year Ended June 30, 2023

Investment Type	Return	Benchmark	Comparison Return vs Benchmark
Combined Funds	8.9%	8.7%	0.2% Over-performed
Pubic Equity	17.4%	17.0%	0.4% Over-performed
Fixed Income	0.1%	(1.3%)	1.4% Over-performed
Private Markets (Invested)	1.8%	None	None
Volunteer Firefighter Account	8.7%	8.3%	0.4% Over-performed

Pension Funding

To achieve the required funding necessary to provide pension benefits, PERA collects member and employer contributions and invests those assets. The investment assets are expected to earn a targeted investment return over the long-term. As PERA has matured, the investment earnings have become the largest source of funding for the benefits.

PERA contracts with an actuarial firm to prepare two annual actuarial valuations, the accounting valuation and the funding valuation, for the three cost-sharing, multiple-employer defined benefit plans. The funding valuation, which this discussion will focus on, is used to determine the financial health of the retirement plans. A comparison of actual fixed statutory contributions to the actuarial required contribution determines whether the plans are on pace to be fully funded by the legislature's full funding target date for each plan. For this purpose, the actuarial value of assets is used. This method smooths assets over a five-year period to minimize the impact of investment volatility. Additional information about the valuation reports can be found in the Actuarial Section beginning on page 108.

The legislature reduced the statutorily-established investment rate of return assumption from 7.5% to 7% effective July 1, 2023. PERA's actuaries determined that the statutorily established investment return assumption of 7% is within the reasonable range from the guidance set forth in the Actuarial Standards of Practice. Figure 2 below shows the contribution sufficiency or deficiency and the funding ratios using the statutorily-established investment return assumption.

Figure 2. Actuarial valuation for funding purposes—PERA defined benefit retirement plans.

Actuarial Valuation for Funding Purposes—PERA Defined Benefit Retirement Plans
As of July 1, 2023 and 2022

	General Employees Fund	Police & Fire Fund	Correctional Fund
Contribution Sufficiency (Deficiency), as of 07/01/2023	3.5%	1.4%	1.7%
Contribution Sufficiency (Deficiency), as of 07/01/2022	3.3%	6.8%	3.2%
Funding Ratio - Actuarial Value of Assets, as of 07/01/2023	83.6%	87.0%	96.7%
Funding Ratio - Actuarial Value of Assets, as of 07/01/2022	87.4%	93.1%	105.1%

Letter of Transmittal

As a result of the reduction in the statutorily-established investment rate of return assumption from 7.5% to 7%, the contribution sufficiency and funding ratio decreased for all plans. For the General Plan, this decline in contribution sufficiency was offset by one-time state aid and ultimately resulted in a slight increase in the contribution sufficiency. The legislature also provided one-time state aid payments to the other Police & Fire and Correction plans. However, the state aid did not offset the decrease from the reduction in the statutorily-established investment rate of return for those plans.

Report Contents and Structure

This ACFR is designed to comply with the reporting requirements of Minnesota Statute 356.20. The preparation of this report is the result of the PERA Finance Division under the direction of its chief financial officer and in collaboration with its executive director. Ultimate responsibility for the integrity of the data presented within this report, including the fair presentation of the financial statements in all material respects, lies with PERA management.

In addition, PERA management is responsible for establishing and maintaining a system of internal controls over financial reporting. The objective of this internal control framework is to provide reasonable, not absolute, assurance that assets are safeguarded against loss, that financial records and reports are reliable, and that PERA complied with all finance-related legal requirements. The concept of reasonable assurance recognizes the relationship between the cost of a control and the benefit likely to be derived based on the judgment of management. PERA management asserts, to the best of their knowledge, that the internal controls over financial reporting are operating effectively as of June 30, 2023, to meet the purpose for which they were intended.

Inherent limitations exist in the effectiveness of any internal control system, including the possibility of human error, faulty decision making, fraud, or management overriding the system. Accordingly, even a well-conceived and operating internal control system may not prevent or detect misstatements in the preparation of financial statements. In addition, any projection of the evaluation of the effectiveness of internal controls may become inadequate due to changing business conditions or the degree of PERA compliance with established policies and procedures deteriorating.

State law permits the Minnesota Office of the Legislative Auditor (OLA), a nonpartisan office in the legislative branch of the state government, to audit the financial statements and related note disclosures contained in this report. The OLA completed this audit in accordance with auditing standards generally accepted in the United States, and the standards applicable to financial audits contained in Government Auditing Standards. The OLA also reviewed the adequacy of our internal controls over financial reporting and compliance with certain legal provisions. The OLA found that PERA's financial statements were presented fairly, in all material respects, and that PERA had no material weaknesses in our internal controls.

Readers are encouraged to review this letter of transmittal along with Management's Discussion and Analysis within the Financial Section of this report. Management's Discussion and Analysis presents financial highlights, condensed PERA financial statements, and an analysis of the PERA defined benefit retirement funds.

Letter of Transmittal

Awards

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to PERA for its *Annual Comprehensive Financial Report* (ACFR) for the fiscal year ended June 30, 2022. This was the 30th year that PERA has received this prestigious award. To receive this award, a government must publish an easily-readable and efficiently-organized ACFR. This report must satisfy both generally-accepted accounting principles and applicable legal requirements. The award is valid for a period of one year only. We believe our current ACFR continues to meet the Certificate of Achievement program's requirements, and we are submitting the ACFR to the GFOA to determine eligibility of the reports for the fiscal year ended June 30, 2023.

The GFOA also awarded an Award for Outstanding Achievement in Popular Annual Financial Reporting to PERA for its *Popular Annual Financial Report* (PAFR) for the fiscal year ended June 30, 2022. The PAFR presents the significant financial information found within the ACFR in a summarized and simplified format. This was the fifth consecutive year PERA received this award. To receive this award, a government must publish a PAFR that conforms to program standards of creativity, presentation, understandability, and reader appeal.

The Public Pension Coordinating Council (PPCC) awarded the Public Pension Standards Award for Administration to PERA for 2023. To receive this award, the retirement system must meet professional standards for plan administration as set forth in the Public Pension Standards. These standards were developed by a coalition of three associations that represent public pension funds who cover the vast majority of public employees in the US. They are intended to reflect minimum expectations for public retirement systems administration, and they serve as a benchmark by which all defined benefit public plans should be measured.

Acknowledgments

This annual report is the result of the combined teamwork of PERA staff under the direction of the Board. We would like to extend our sincere appreciation to the Board of Trustees, the PERA Finance Division, and all who assisted in and contributed toward the completion of this report.

Respectfully Submitted,

Doug Anderson
Executive Director

Tracy Gebhard
Chief Finance Officer

Board of Trustees & Professional Consultants

The information on this page is accurate as of December 8, 2023.

Thomas Stanley, President
Elected General Membership Representative Trustee since March 2013
Current term expires January 2027

Paul Bourgeois
Elected General Membership Representative Trustee since February 2011
Current term expires January 2027

Mary Falk
Appointed General Public Representative Trustee since June 2015
Current term expires January 2027

Paul Ford
Elected Police & Fire Representative
Trustee since August 2017
Current term expires January 2027

Barb Johnson
Appointed City Representative
Trustee since January 2017
Current term expires January 2025

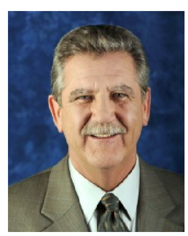
Scott Schulte
Appointed County Representative
Trustee since March 2021
Current term expires January 2025

Vacant
Elected General Membership Representative

Julie Blaha
State Auditor
Trustee since January 2019
Current term expires January 2027

Dennis Flaherty
Elected Retired, Disabled, and Survivor Representative
Trustee since April 2023
Current term expires January 2027

Kathryn A. Green
Appointed School Board Representative
Trustee since April 2006
Current term expires January 2026



Thomas Thornberg
Appointed Annuitant Representative
Trustee since February 2020
Current term expires January 2024

Professional Consultants

Actuary:
Gabriel Roeder Smith & Company

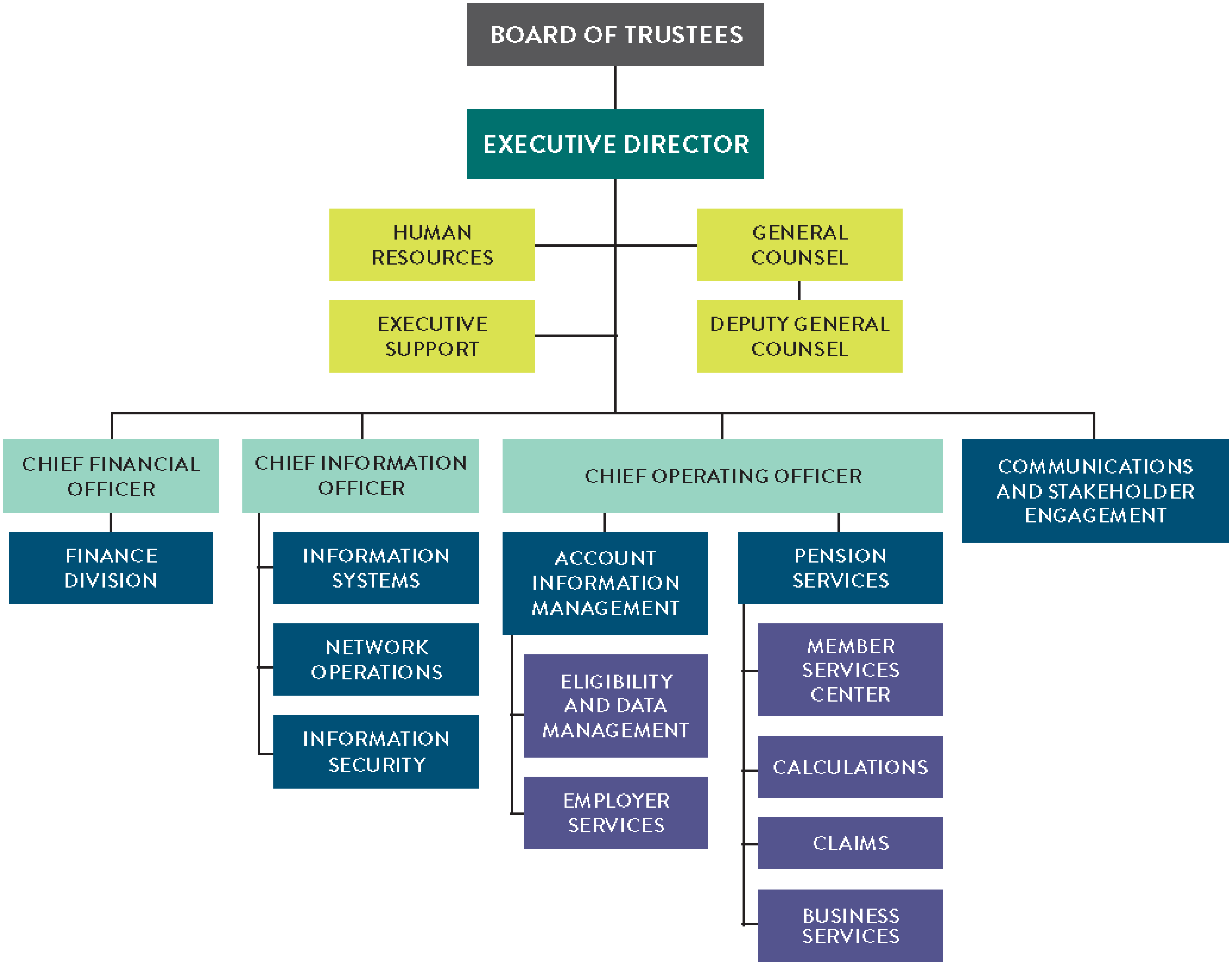
Auditors:
Minnesota Office of the Legislative Auditor
Clifton Larson Allen

Legal Counsel:
Minnesota Office of Attorney General

Medical Advisor:
MMRO: Managed Medical Review Organization

NOTE: PERA invests its funds in various investment pools administered by the Minnesota State Board of Investment (SBI). The SBI retains various investment advisors whose fees are paid by the pool participants, including PERA. A schedule of these advisors and PERA's share of their fees is located on page 105 in the Investment Section of this ACFR.

Organization Structure, Key Administrative Staff



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FINANCIAL SECTION

2023 ANNUAL COMPREHENSIVE FINANCIAL REPORT

OLA | OFFICE OF THE LEGISLATIVE AUDITOR

Judy Randall
Legislative Auditor State of Minnesota

Independent Auditor's Report

Members of the Board of Trustees
Public Employees Retirement Association of Minnesota

Doug Anderson, Executive Director
Public Employees Retirement Association of Minnesota

Report on the Audit of the Financial Statements

Opinion

We have audited the accompanying financial statements of the Public Employees Retirement Association of Minnesota (PERA), which included the Statement of Fiduciary Net Position as of June 30, 2023, the related Statement of Changes in Fiduciary Net Position, and Notes to the Financial Statements, as listed in the Financial Section of the Table of Contents.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Public Employees Retirement Association of Minnesota as of June 30, 2023, and the changes in financial position for the fiscal year then ended in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

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 of America. 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 PERA 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.

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legislative.auditor@state.mn.us • www.auditor.leg.state.mn.us • Minnesota Relay: 1-800-627-3529 or 711

Independent Auditor's Report

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 PERA'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 opinion. Reasonable assurance is a high level 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 judgement 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 PERA'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 of events, considered in the aggregate, that raise substantial doubt about PERA'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.

Independent Auditor's Report

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that Management's Discussion and Analysis and the other required supplementary information, as listed in the Financial Section of 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 Management's Discussion and Analysis and the other 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.

Supplementary Information

Our audit was conducted for the purpose of forming an opinion on the basic financial statements as a whole. The supporting schedules in the Financial Section, as listed in the Table of Contents, are presented for purposes of additional analysis and are not a required part of the basic 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 basic financial statements. The information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the information is fairly stated in all material respects in relation to the basic financial statements as a whole.

Other Information

Management is responsible for the other information included in the annual report. The other information comprises the Introductory, Investment, Actuarial, and Statistical Sections, as listed in the Table of Contents, 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.

Independent Auditor's Report

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we will issue a report on our consideration of the Public Employees Retirement Association of Minnesota's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, grant agreements, and other matters. The purpose of that report is to describe the scope and results of our testing of internal control over financial reporting and compliance and not to provide an opinion on the 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 PERA's internal control over financial reporting and compliance.

Lori Leysen, CPA
Deputy Legislative Auditor

Jordan Bjonfald, CPA
Audit Director

December 21, 2023
Saint Paul, Minnesota

Management's Discussion and Analysis

The management of the Minnesota Public Employees Retirement Association (PERA) present this discussion and analysis of the financial activities of PERA for the fiscal year ended June 30, 2023. Readers are encouraged to use this discussion and analysis in conjunction with the Letter of Transmittal beginning on page 9, Basic Financial Statements on page 27, and Notes to the Financial Statements beginning on page 29 of this report.

Overview of PERA's Pension Plans

PERA administers four defined benefit retirement plans: 1) the General Employees Retirement Plan (General Employees Plan), 2) the Public Employees Police & Fire Plan (Police & Fire Plan), 3) the Public Employees Local Government Correctional Service Retirement Plan (Correctional Plan), and 4) the Statewide Volunteer Firefighter Plan (SVF Plan). PERA also administers one defined contribution plan: the Public Employees Defined Contribution Plan.

Financial Highlights

Overall, the financial condition of PERA improved during fiscal year 2023. PERA’s fiduciary net position increased over $2.2 billion, or 5.9%, from $37.6 billion as of June 30, 2022, to $39.8 billion as of June 30, 2023.

For the General Employees Plan, Police & Fire Plan, and Correctional Plan, the investment rate of return, net of fees, was 8.9% in 2023. This is slightly higher than the assumed rate of return of 7% used in the annual actuarial valuations, and slightly higher than the 8.7% benchmark the Minnesota State Board of Investment uses for the Combined Funds. For the SVF Plan, the investment rate of return, net of fees, was 8.7% in 2023. This is slightly higher than the 8.3% benchmark the Minnesota State Board of Investment used for the Volunteer Firefighter account.

Overview of the Financial Statements

The *Annual Comprehensive Financial Report* (ACFR) reflects the activities of PERA as reported in Basic Financial Statements, on pages 27 and 28. These statements are prepared in conformance with generally accepted governmental accounting principles and reported using the accrual basis of accounting. Basic Financial Statements consists of:

- Statement of Fiduciary Net Position: This statement provides a point-in-time snapshot of the fund balances at June 30. It reflects the assets available and the liabilities owed which are reported at fair value as of June 30. The difference between the sum of total assets and the sum of total liabilities is the net position restricted for pensions. This amount is available for payment of future pension benefits or other obligations.

- Statement of Changes in Fiduciary Net Position: This statement shows the effect of financial transactions that occurred during the fiscal year where additions less deductions equal net increase (or net decrease) in net position. This increase or decrease in net position reflects the change in the value of fiduciary net position that occurred between the current and prior year.

- Notes to the Financial Statements: The notes are an integral part of the financial statements that provide additional information beneficial to understanding the financial statements. The notes include a description of PERA and its plans, a summary of significant accounting policies, and information on deposits, investments, contributions, benefits, capital assets, and liabilities, including the net pension liability.

Management's Discussion and Analysis

In addition to Basic Financial Statements, the ACFR also includes Required Supplementary Information (RSI) and Supplementary Schedules. The RSI consists of three schedules with related notes: Schedule of Changes in Net Pension Liability and Related Ratios, Schedule of Contributions from Employers and Nonemployers, and Schedule of Investment Returns. These schedules present multi-year data designed to provide economic context regarding amounts reported in the financial statements and to provide historical context for each pension fund's fiduciary net position related to the total pension liability. The Supplementary Schedules include Schedule of Investment Expenses, Schedule of Payments to Consultants, and Schedule of Administrative Expenses. These schedules summarize the operating expenses PERA incurred during fiscal year 2023 to administer its defined benefit retirement and defined contribution plans.

Financial Analysis

Each of the four defined benefit retirement plans have some characteristics that are different from others, such as membership served, contributions paid, and benefits received. Three of the four defined benefit retirement plans, the General Employees Plan, Police & Fire Plan, and Correctional Plan, have some characteristics in common, such as shared investment pools. The following pages highlight events or conditions that had a significant effect on each plan's financial position or results of operations during fiscal year 2023.

Statement of Fiduciary Net Position

The table below compares the assets and liabilities for PERA defined benefit retirement plans.

Figure 1. Condensed statement of fiduciary net position—PERA defined benefit retirement plans.

Condensed Statement of Fiduciary Net Position—PERA Defined Benefit Retirement Plans
As of June 30, 2023 and 2022 (Dollars in thousands)*

	General Employees Fund	Police & Fire Fund	Correctional Fund	SVF	Total
Total Assets*, as of 06/30/2023	$28,937,474	$11,617,979	$1,123,131	$152,089	$41,830,673
Total Assets, as of 06/30/2022	27,390,902	10,960,513	1,026,419	132,344	39,510,178
Change in Total Assets	$1,546,572	$657,466	$96,712	$19,745	$2,320,495
Percentage Change	5.6%	6.0%	9.4%	14.9%	5.9%
Total Liabilities as of 06/30/2023	$1,436,697	$579,051	$55,931	$32	$2,071,711
Total Liabilities, as of 06/30/2022	1,356,717	545,020	51,104	30	1,952,871
Change in Total Liabilities	$79,980	$34,031	$4,827	$2	$118,840
Percentage Change	5.9%	6.2%	9.4%	6.7%	6.1%
Total Net Position Restricted for Pensions, as of 06/30/2023	$27,500,777	$11,038,928	$1,067,200	$152,057	$39,758,962
Total Net Position Restricted for Pensions,as of 06/30/2022	26,034,185	10,415,493	975,315	132,314	37,557,307
Change in Net Position Restricted for Pensions	$1,466,592	$623,435	$91,885	$19,743	$2,201,655
Percentage Change	5.6%	6.0%	9.4%	14.9%	5.9%

*The Total Assets, as of 06/30/2023 includes capital assets totaling $5.1 million and Total Assets, as of 06/30/2022 includes capital assets totaling $5.5 million for the General Employees Fund.

Management's Discussion and Analysis

Total assets increased by $2.3 billion, or 5.9% to $41.8 billion. This increase can be attributed to an 8.9% investment rate of return for the fiscal year. Refer to the Notes to the Financial Statements: Note 3 for additional information on investments and Note 4 for additional information on capital assets. PERA did not have any significant capital asset activity during fiscal year 2023.

Total liabilities also increased from fiscal year 2022 to 2023 by $118.84 million, or 6.1%. This change is due to an increase in securities lending collateral. Securities lending collateral increased due to the positive investment market. Refer to the Notes to the Financial Statements: Note 3 for additional information on securities lending collateral.

The investment rate of rate of return increased significantly from -6.4% in fiscal year 2022 to 8.9% in fiscal year 2023. As a result, the fiduciary net position restricted for pensions for all defined benefit retirement plans has increased by $2.2 billion, or 5.9%, to almost $39.8 billion as of June 30, 2023.

Statement of Changes in Fiduciary Net Position

The table below compares the total additions by major source and total deductions by type for PERA defined benefit retirement plans.

Figure 2. Condensed schedule of changes in fiduciary net position—PERA defined benefit retirement plans.

Condensed Schedule of Changes in Fiduciary Net Position—PERA Defined Benefit Retirement Plans
For the Fiscal Years Ended June 30, 2023 and 2022
(Dollars in thousands)

	Fiscal Year Ended 06/30/2023	Fiscal Year Ended 06/30/2022	Change
Contributions	$1,511,668	$1,415,887	$95,781
Total Net Investment Income	3,285,367	(2,535,602)	5,820,969
Other Additions	10,834	5,644	5,190
Total Additions	4,807,869	(1,114,071)	5,921,940
Benefits	2,516,164	2,399,674	116,490
Refunds of Contributions	73,709	80,061	(6,352)
Administrative Expenses	16,341	15,564	777
Total Deductions	2,606,214	2,495,299	110,915
Net Increase (Decrease) in Net Position Restricted for Pensions	$2,201,655	($3,609,370)	$5,811,025
Ending Net Position	$39,758,962	$37,557,307	$2,201,655

Total additions increased over $5.9 billion to $4.8 billion. This change is primarily attributable to the fiscal year 2023 investment return of 8.9% as compared to a –6.4% return in 2022. The positive investment return resulted in an increase in net investment income of approximately $5.8 billion. Contributions also increased by almost $96 million due to an increase in current, active members of 4,770, or 2.7%. The increase in other additions is almost entirely attributable to the amount of assets the 12 fire departments that joined in fiscal year 2023 transferred into the SVF. In fiscal year 2023, 12 fire departments transferred $10.7 million of assets into the SVF Plan which is almost double the $5.5 million of assets transferred 11 fire departments transferred into the SVF Plan in fiscal year 2022.

Management's Discussion and Analysis

Total deductions increased over $110.9 million to approximately $2.6 billion, an increase of 4.4%. The increase is almost entirely due to increased annuity benefit distributions, which rose 4.9% from almost $2.4 billion to over $2.5 billion. The increase is the result of growth in the number of members receiving benefits, up 2.9% to 133,666 members, and payment of benefit increases to retirees and other benefit recipients in January 2023. The benefit increase was 1.5% for the General Employees Plan, 1% for the Police & Fire Plan, and 2.5% for the Correctional Plan.

Actuarial Valuation Results

PERA contracts with an actuarial firm to prepare actuarial valuations for the General Employees Plan, Police & Fire Plan, and Correctional Plan on an annual basis. Separate actuarial valuations are prepared for accounting and funding purposes.

Accounting Valuation

The actuarial valuation for accounting purposes is used for financial reporting. It provides information about the net pension liability as of a specific point in time using the market value of investment assets. The Governmental Accounting Standards Board (GASB) requires that PERA provides a standardized methodology that allows comparability of amounts and increased transparency of liabilities across US plans complying with GASB 67 and 74. The table below shows the net pension liability as of June 30, 2023 and 2022 along with the change in net pension liability.

Figure 3. Actuarial valuation for accounting purposes: PERA defined benefit retirement plans.

Actuarial Valuation for Accounting Purposes: PERA Defined Benefit Retirement Plans
For Fiscal Years Ended June 30, 2023 and 2022 (Dollars in thousands)

	General Employees Fund	Police & Fire Fund	Correctional Fund
Net Pension Liability, year ended 06/30/2023	$5,591,888	$1,726,870	$45,205
Net Pension Liability, year ended 06/30/2022	$7,920,033	$4,351,605	$332,400
Change in Net Pension Liability	($2,328,145)	($2,624,735)	($287,195)

For the three defined benefit retirement plans, the net pension liability decreased from June 30, 2022 to June 30, 2023 due to the changes in the Single Discount Rate used for each plan and the positive growth in the investment market. the Single Discount Rate increased from 6.5% to 7% for the General Employees Plan, 5.4% to 7% for the Police & Fire Plan, and 5.42% to 7% for the Correctional Plan.

Funding Valuation

The actuarial valuation for funding purposes is used to determine the financial health of the retirement plans and how to fund them using the actuarial value of assets, which is smoothed over a five-year period to minimize the impact of investment volatility. The table below shows the contribution sufficiency or deficiency and the funding ratios presented in the funding valuation reports.

Management's Discussion and Analysis

Actuarial Valuation for Funding Purposes - PERA Defined Benefit Retirement Plans
As of July 1, 2023 and 2022

	General Employees Fund	Police & Fire Fund	Correctional Fund
Contribution Sufficiency (Deficiency), as of 07/01/2023	3.5%	1.4%	1.7%
Contribution Sufficiency (Deficiency), as of 07/01/2022	3.3%	6.8%	3.2%
Funding Ratio - Actuarial Value of Assets, as of 07/01/2023	83.6%	87.0%	96.7%
Funding Ratio - Actuarial Value of Assets, as of 07/01/2022	87.4%	93.1%	105.1%
Funding Ratio - Market Value of Assets, as of 07/01/2023	83.1%	86.5%	95.9%
Funding Ratio - Market Value of Assets, as of 07/01/2022	86.2%	91.8%	103.2%

In fiscal year 2023, the legislature reduced the statutorily established investment return assumption from 7.5% to 7% effective July 1, 2023. The 7% investment return assumption is, as determined by PERA's actuaries, within the reasonable range as set forth in Actuarial Standards of Practice. As a result of the reduction in the investment return assumption, the contribution sufficiency and the funding ratios declined for all plans. For the General Employees Plan, the decline in contribution sufficiency was offset by the approximately $170 million in one-time state aid. The Police & Fire and Correctional plans also received the one-time state aid, payable in October 2023. The one-time state aid did not offset the decline in the contribution sufficiency for either of those plans.

Request for Information

The *Annual Comprehensive Financial Report* is intended to provide a general overview of PERA's financial position as of June 30, 2023 and financial activities for fiscal year 2023. If you have any questions or comments concerning the contents of this report, please contact the Minnesota Public Retirement Association by mail at 60 Empire Drive, Suite 200, Saint Paul, Minnesota, 55103-2088 or by email at benefits@mnpera.org.

Statement of Fiduciary Net Position

As of June 30, 2023
(In thousands)

	Defined Benefit Funds					
	General Employees Fund	Police & Fire Fund	Correctional Fund	Volunteer Firefighter Fund	Defined Contribution Fund	Total
Assets						
Cash and Cash Equivalents						
Cash	$10,068	$3,582	$416	$0	$1,304	$15,370
Cash Equivalents	814,193	325,029	31,453	6,930	5,060	1,182,665
Total Cash and Cash Equivalents	**824,261**	**328,611**	**31,869**	**6,930**	**6,364**	**1,198,035**
Receivables						
Accounts Receivable	32,818	19,767	882	368	116	53,951
Due from Other Funds	1,492	20	2	0	0	1,514
Total Receivables	**34,310**	**19,787**	**884**	**368**	**116**	**55,465**
Investments at Fair Value						
Publicly Traded Equity Securities						
Domestic Equity	9,202,021	3,695,840	359,419	55,709	57,701	13,370,690
Broad International Stock Pool	4,370,877	1,755,491	170,721	22,971	3,792	6,323,852
Global Equity Pool	315,028	125,513	11,174	0	0	451,715
Publicly Traded Debt Securities	5,830,410	2,337,364	223,184	66,111	21,757	8,478,826
Private Investments	6,928,404	2,782,680	270,615	0	0	9,981,699
Total Investments	**26,646,740**	**10,696,888**	**1,035,113**	**144,791**	**83,250**	**38,606,782**
Securities Lending Collateral	**1,427,021**	**572,693**	**55,265**	**0**	**0**	**2,054,979**
Capital Assets						
Equipment Net of Accumulated Depreciation	194	0	0	0	0	194
Property Net of Accumulated Depreciation	4,948	0	0	0	0	4,948
Total Capital Assets	**5,142**	**0**	**0**	**0**	**0**	**5,142**
Total Assets	**28,937,474**	**11,617,979**	**1,123,131**	**152,089**	**89,730**	**41,920,403**
Liabilities						
Accounts Payable	7,306	5,252	280	32	17	12,887
Payable to Other Funds	22	1,106	386	0	0	1,514
Accrued Compensated Absences	1,275	0	0	0	0	1,275
Bonds Payable	1,073	0	0	0	0	1,073
Securities Lending Collateral	1,427,021	572,693	55,265	0	0	2,054,979
Total Liabilities	**1,436,697**	**579,051**	**55,931**	**32**	**17**	**2,071,728**
Net Position Restricted for Pensions	**$27,500,777**	**$11,038,928**	**$1,067,200**	**$152,057**	**$89,713**	**$39,848,675**

The accompanying notes are an integral part of the financial statements.

Statement of Changes in Fiduciary Net Position

For the Fiscal Year Ended June 30, 2023
(In thousands)

	General Employees Fund	Police & Fire Fund	Correctional Fund	Volunteer Firefighter Fund	Defined Contribution Fund	Total
Additions						
Contributions						
Employer	$581,044	$223,305	$20,518	$1,331	$2,365	$828,563
Member	487,107	144,470	13,894	0	2,268	647,739
State of Minnesota	16,000	18,000	0	5,999	0	39,999
Total Contributions	**1,084,151**	**385,775**	**34,412**	**7,330**	**4,633**	**1,516,301**
Investment Income						
Net Appreciation in Fair Value of Investments	2,275,648	913,755	87,509	12,937	10,646	3,300,495
Less Investment Expense	(9,390)	(3,766)	(360)	(45)	(24)	(13,585)
Net Investment Income	2,266,258	909,989	87,149	12,892	10,622	3,286,910
From securities lending activities:						
Securities Lending Income	53,922	21,641	2,090	0	0	77,653
Borrower Rebates	(46,233)	(18,556)	(1,792)	0	0	(66,581)
Management Fees	(1,384)	(555)	(54)	0	0	(1,993)
Net Income from Securities Lending	6,305	2,530	244	0	0	9,079
Total Net Investment Income	**2,272,563**	**912,519**	**87,393**	**12,892**	**10,622**	**3,295,989**
Other Additions (Deductions)	**204**	**(61)**	**0**	**10,691**	**0**	**10,834**
Total Additions	**3,356,918**	**1,298,233**	**121,805**	**30,913**	**15,255**	**4,823,124**
Deductions						
Benefits	1,808,287	669,804	27,117	10,956	0	2,516,164
Refunds of Contributions	67,580	3,747	2,369	13	7,697	81,406
Administrative Expenses	14,459	1,247	434	201	331	16,672
Total Deductions	**1,890,326**	**674,798**	**29,920**	**11,170**	**8,028**	**2,614,242**
Net Increase (Decrease) in Net Position	**1,466,592**	**623,435**	**91,885**	**19,743**	**7,227**	**2,208,882**
Net Position Restricted for Pensions						
Beginning of year	26,034,185	10,415,493	975,315	132,314	82,486	37,639,793
End of year	**$27,500,777**	**$11,038,928**	**$1,067,200**	**$152,057**	**$89,713**	**$39,848,675**

The accompanying notes are an integral part of the financial statements.

Notes to Financial Statements
NOTE 1: Plan Description
A) Organization
Established by the Minnesota legislature in 1931, the Public Employees Retirement Association (PERA) of Minnesota administers pension plans that serve current or former county, school, and local public employees, their survivors, and their dependents. Retirement plans administered by PERA provide a variety of retirement pensions as well as survivor and disability benefits.

PERA's Board of Trustees is responsible for administering these plans in accordance with statutes passed by the Minnesota legislature and has a fiduciary obligation to PERA's members, their governmental employers, the state, and Minnesota taxpayers. PERA's Board of Trustees is composed of 11 members. The state auditor is a member by statute. The governor appoints five trustees. Serving four-year terms, these five trustees represent cities, counties, school boards, retired annuitants, and the general public, respectively. The remaining five board members are elected by PERA members to serve four-year terms. Three trustees represent general active membership, one represents Police & Fire Plan members, and one represents benefit recipients.

The board appoints an executive director to serve as chief administrative officer of PERA. With approval of the board, the director develops the annual administrative budget, determines staffing requirements, contracts for actuarial and other services, and directs the day-to-day operations of PERA. The director also serves as a member of the State Investment Advisory Council, which advises the Minnesota State Board of Investment (SBI) on the management and investment of public pension funds and other assets.

PERA is the administrator of five retirement plans. Each plan has specific membership, contribution, vesting, and benefit provisions. With certain statutory exceptions, an employee performing personal services for a governmental employer whose salary is paid, in whole or in part, from revenues derived from taxation, fees, assessments, or other sources, is a member of PERA. Plan participation is dependent on the occupation of the member. The plans, including benefit provisions and the obligation to make contributions, are established and administered in accordance with Minnesota Statute Chapters 353, 353D, 353E, 353G, and 356. These statutes also define financial reporting requirements.

PERA administers three cost-sharing multiple-employer defined benefit retirement plans: the General Employees Retirement Plan (accounted for in the General Employees Fund), the Public Employees Police & Fire Plan (accounted for in the Police & Fire Fund), and the Public Employees Local Government Correctional Service Retirement Plan, called the Public Employees Correctional Plan (accounted for in the Correctional Fund).

PERA administers one agent multiple-employer defined benefit retirement plan, the Statewide Volunteer Firefighter Retirement Plan (accounted for in the Volunteer Firefighter Fund) and one multiple-employer defined contribution plan, the Public Employees Defined Contribution Plan (accounted for in the Defined Contribution Fund).

General Employees Plan
The General Employees Plan encompasses two plans: the Coordinated Plan and the Basic Plan. The Coordinated Plan provides retirement and other benefits in addition to those supplied by Social Security Administration (SSA). The Basic Plan was PERA's original retirement plan and is not coordinated with the SSA. PERA's Basic Plan closed to new membership in 1968 with

the creation of the Coordinated Plan. In 2023, fewer than five Basic Plan members remain active public employees. The Minneapolis Employees Retirement Fund (MERF) was included in the General Employees Plan in June 2010, as a separate division and was merged into the plan January 1, 2015. A traditional defined benefit plan, MERF closed to new membership in 1979. MERF encompasses employees of the city of Minneapolis, the Metropolitan Airports Commission, Minnesota State colleges and universities, and non-teaching personnel at Minneapolis schools. Annual state and employer appropriations of $37 million through 2031 ensure the plan remains self-sustaining. In 2023, fewer than five MERF members remain active public employees.

Statewide Volunteer Firefighter Plan

Funding for the Statewide Volunteer Firefighter Plan (SVF) is based on insurance premiums and provided through Minnesota Fire State Aid, administered by the Minnesota Department of Revenue. If required, annual funding contributions are provided by the governing body associated with the fire department. Additionally, the governing bodies are authorized by statute to make voluntary contributions to their account.

Defined Contribution Plan

Officials first elected after June 30, 2002 to a governing body, such as a city council or county board may only participate in PERA's Defined Contribution Plan (DCP). Previously, these officials could choose General Plan participation instead of the Defined Contribution Plan. City managers may participate in the Defined Contribution Plan instead of the General Plan. Starting May 20, 2023, appointed officials are eligible for DCP membership when their earnings are too low for General Plan membership. Previously-elected, now-appointed positions are also eligible to resume DCP membership if the member's salary remains below the General Plan membership threshold.

Figure 1: Retirement plan summary presents a summary of the laws, regulations, and administrative rules governing PERA's five retirement plans and should not be interpreted as a comprehensive explanation. If there is any discrepancy between this summary and the laws governing PERA, the statutes and regulations will govern.

Notes to Financial Statements

Retirement Plan Summary

General Employees Plan	Police & Fire Plan	Correctional Plan
STATUTORY AUTHORITY:		
Minnesota Statutes Chapters 353 and 356	Minnesota Statutes Chapters 353 and 356	Minnesota Statutes Chapters 353E and 356
DATE ESTABLISHED:		
Basic Plan: 1931 Coordinated Plan: 1968 MERF: 2010 Merged with General Plan: 2015	1959	1999
BENEFITS:		
Cost-sharing, multiple-employer defined benefit	Cost-sharing, multiple-employer defined benefit	Cost-sharing, multiple-employee defined benefit
MEMBERSHIP:		
Employees of counties, cities, and townships and employees of schools in non-certified positions, and other entities whose revenues are derived from taxation, fees, or assessments	Licensed police officers and firefighters who meet the membership criteria in Minnesota Statute 353.64 and who are not earning credit in any other PERA retirement plan or in a local relief association for the same services Effective July 1, 1999 the plan also covers police officers and fire fighters belonging to a local relief association that elected to merge with and transfer assets and administration to PERA	Correctional officers serving in county and regional adult and juvenile corrections facilities Participants must be responsible for the security, custody, and control of the facilities and their inmates
APPROXIMATE NUMBER OF EMPLOYERS		
2,100	430	80

Notes to Financial Statements

Volunteer Firefighter Plan	Defined Contribution Plan
STATUTORY AUTHORITY:	
Minnesota Statutes Chapter 353G and 356 for the lump-sum and monthly benefit divisions and Minnesota Statutes Chapter 424A for the monthly benefit division	Minnesota Statutes Chapter 353D and Chapter 356
DATE ESTABLISHED:	
2010 for the lump-sum division 2016 for the monthly benefit division	1987
BENEFITS:	
Agent multiple-employer defined benefit	Multiple-employer defined contribution
MEMBERSHIP:	
Any municipal volunteer fire department or independent nonprofit firefighting corporation	Elected and appointed local government officials (except elected county sheriffs who are only eligible if they meet certain qualifications), city managers, emergency medical service personnel, including physicians, employed by or providing service to any participating public ambulance service who are not covered by another public or private pension and any publicly-operated ambulance service that receives an operating subsidy from a governmental entity and elects to participate in the plan
APPROXIMATE NUMBER OF EMPLOYERS	
217	1,100

Notes to Financial Statements

Figure 1: Retirement Plan Summary (continued from previous page)

General Employees Plan	Police & Fire Plan	Correctional Plan
VESTING:		
Active Members: If you are currently working in public service on or after July 1, 2023, your vesting requirement is three years	PERA membership started prior to July 1, 2010: Your vesting requirement is three years 36 service credits). PERA membership means any PERA defined benefit plan, not just Police & Fire PERA membership started July 1, 2010 or later: Your vesting requirement is a five-to-ten-year graded vesting schedule. At five years, you are 50% vested in the plan. Vesting increases at 10% each full year until you are 100% vested after 10 years	years for members hired prior to July 1, 2010 Prorated basis from 50% after 5 years up to 100% after 10 years for members first hired on or after July 1, 2010
FINAL AVERAGE SALARY:		
Average monthly salary over the highest-paid 60 consecutive months or all months if less than 60	Average monthly salary over the highest paid 60 consecutive months or all months if less than 60	Average monthly salary over the highest paid 60 consecutive months or all months if less than 60
RETIREMENT ANNUITY FORMULAS:		
Members hired prior to July 1, 1989, receive the higher of Method 1 or Method 2 formulas. Only Method 2 is used for members hired after June 30, 1989 Method 1: The accrual rate for Coordinated members is 1.2% for each of the first 10 years of service and 1.7% for each additional year. The rates are 2.2% and 2.7%, respectively, for Basic members Method 2: The accrual rate for Coordinated members is 1.7% for all years of service, and 2.7% for Basic members The accrual rate for former MERF members is 2.0% for each of the first 10 years of service and 2.5% for each additional year	Annuity accrual rate is 3.0% of average salary for each year of credited service	Annuity accrual rate is 1.9% of average salary for each year of credited service

Notes to Financial Statements

Volunteer Firefighter Plan	Defined Contribution Plan
VESTING:	
Prorated basis from 40% at 5 years to 100% at 20 years.	No vesting requirements for member or employer contributions or earnings
FINAL AVERAGE SALARY:	
N/A	N/A
RETIREMENT ANNUITY FORMULAS:	
Lump-sum division benefits are based on the number of years of service multiplied by a service pension level chosen by the entity sponsoring the fire department from possible levels ranging from $500 per year of service to $15,000 per year of service Monthly division benefits are determined at the individual plan level	N/A

Notes to Financial Statements

B) Participating Members

Figure 2 shows membership totals in PERA's defined benefit plans and defined contribution plan as of June 30, 2023.

Figure 2. PERA Membership

	General Employees Fund	Police & Fire Fund	Correctional Fund	Volunteer Firefighter	Total
Retirees and beneficiaries receiving benefits	119,080	12,601	1,843	142	133,666
Terminated employees entitled to benefits/refunds but not yet receiving them:					
Vested	70,221	1,966	4,378	1,302	77,867
Non-Vested	88,292	941	2,604	0	91,837
Current, active employees:					
Vested	90,007	8,993	1,986	2,830	103,816
Non-Vested	64,254	2,642	1,800	1,624	70,320
Total	431,854	27,143	12,611	5,898	477,506
Defined Contribution Plan Membership	8,238				

C) Benefit Provisions: Cost-sharing, Multiple-Employer Defined Benefit Retirement Plans

PERA's defined benefit plans are tax qualified plans under Section 401(a) of the Internal Revenue Code. PERA provides retirement and disability benefits to members, as well as survivors after the death of eligible members.

Retirement benefits are based on a member's highest average salary, their age, and their years of credit at the termination of service. A reduced retirement annuity is also available to eligible members seeking early retirement. Members of PERA's defined benefit plans receive one service credit each month they are paid. Individuals may earn a maximum of 12 service credits per year. Salary used in retirement and disability benefit calculations is the average monthly salary over an individual's 60 highest-paid consecutive months of public service (high-five salary), or all months of service if the member has worked fewer than 60 months.

Members of the PERA General Employees Plan, Police & Fire Plan, and Correctional Plan may select from several types of retirement benefits.

Single-Life Pension: A single-life pension is a lifetime annuity that ends after the death of the member. No survivor benefit is payable.

Survivor Options: Upon retirement, members may choose from one of four survivor options, which are payable for the lifetime of the member. When the member dies, the designated survivor receives monthly benefit payments at the member's chosen percentage for their lifetime. Depending on the survivor option chosen by the member, survivor payments are at 25, 50, 75, or 100% of the benefit the member received in retirement. Choosing a survivor option will result in

Notes to Financial Statements

a reduced pension benefit from the single-life benefit. The amount of the reduction depends on the age of both the retiring member and the survivor.

All survivor pension options incorporate an “automatic bounce back” feature that returns the pension amount to the level of the single-life benefit if the designated survivor dies before the member. The cost of this protection is paid for by the funds, not the member.

Deferred Pension: A vested member who terminates public service may leave contributions in the fund(s) in which they participated and qualify for a pension at retirement age. For members who terminated public service before January 1, 2012, the benefit amount calculated as of the date of termination will increase at a rate of 1% per year, compounded annually. Deferred interest stopped accruing on December 31, 2018. Members who terminated public service after December 31, 2011 cannot receive deferred interest.

If a deferred member returns to the same PERA plan, pension benefit increases will apply to the entire benefit calculation.

Combined Service Annuity and Proportionate Pensions: Retiring members may choose to combine service in a PERA-covered position with service in any of the other eligible Minnesota retirement plans to qualify for a retirement benefit from each plan. These covered plans are designated by statute. Vested members qualify for a combined service pension if they have six or more months of service in each covered plan and have not received a benefit from any of the applicable plans. The retirement annuity from each plan must be based on the member's allowable service, accrual rates, and average salary in the applicable plan; any exceptions are specified in statute.

Proportionate Annuities: Members who retired at or above their Social Security full retirement age with at least one year of service qualify for a proportionate pension in the applicable plan. Benefits are based on the formula of each plan.

Phased Retirement Option: The Phased Retirement Option (PRO) is a tool that allows employers to meet their workforce needs while employees transition to full retirement. The PRO permits an active member of the General Plan, who is age 62 or older, to receive a PERA retirement annuity without a formal termination of employment. However, members must substantially reduce their work hours while participating in the PRO agreement. Availability of positions under this program is at the discretion of the employing unit. Any earnings under the PRO position are not subject to the post retirement annual earnings limits.

Retirement Annuity Formula

General Employees Plan: Method 1 allows members a full retirement annuity if they are age 65 or older with at least one year of public service or, if they were first hired before July 1, 1989, if their age plus their years of public service equal 90 or higher (due to the Rule of 90). A reduced retirement annuity is payable as early as age 55 with three or more years of service. The reduction is 0.25% for each month under age 65. A member with 30 or more years of service may retire at any age with a reduction of 0.25% for each month a member is under age 62.

Method 2 provides for a full retirement annuity at age 65 for members first hired prior to July 1, 1989 or age 66 (the age for unreduced Social Security benefits) for those first hired into public service on or after July 1, 1989. Early retirement may begin at age 55 with an actuarial reduction for members retiring before full retirement age. Members beginning to receive an annuity on or after July 1, 2019, will have actuarial reduction factors phased in over five years that reflect the true actuarial cost of early retirement. These factors recognize recent updates to plan assumptions, including mortality and investment expectations, as well as the removal of the augmentation subsidy.

Police & Fire Plan: Members earn a full retirement annuity when they are age 55 and vested, or if they were first hired before July 1, 1989, when their age plus years of service equal 90 or higher. A reduced retirement annuity is available to members between the ages of 50–55. Benefits are reduced 5% per year under age 55.

Correctional Plan: Members earn a full retirement annuity when they are age 55 and vested, or, if they were first hired before July 1, 1989, when their age plus years of service equal 90 or higher. A reduced retirement annuity is available to members between the ages of 50–55. Benefits are reduced actuarially each year under age 55.

Annual Increases

General Employees Plan: Annuities, disability benefits, and survivor benefits are increased each year, effective every January 1. The annual increase is 50% of the the cost-of-living adjustment (COLA) announced by the SSA, with a minimum increase of at least 1% and a maximum of 1.5%. If members receive the annuity or benefit for one year or more before June 30 of the year before the next January 1 increase, members will receive the full increase. Members who received the annuity or benefit for less than one year (but more than one month) by June 30 of the year before the next January 1 increase will receive a prorated increase. In 2023, legislation repealed the statute delaying increases for members retiring before full retirement age.

Police & Fire Plan: Annuities, disability benefits, and survivor benefits are increased each year, effective every January 1. The annual increase is fixed at 1%. Recipients that have been receiving the annuity or benefit for 36 months or more by the June 30 of the year before the next January 1 increase will receive the full increase. Recipients receiving the annuity or benefit for 25–36 months by June 30 of the year before the January 1 increase will receive a reduced, prorated increase.

Correctional Plan: Annuities, disability benefits, and survivor benefits are increased each year, effective every January 1. The annual increase is 100% of the COLA announced by SSA, with a minimum increase of at least 1% and a maximum increase of 2.5%. If the plan’s funding status declines to 85% or below for two consecutive years or 80% or less for one year, the maximum will be lowered from 2.5% to 1.5%. In 2023, legislation clarified that if the annual increase cap was reduced to 1%, there is a way to return to the 2.5% increase if certain criteria are met. Recipients that have been receiving the annuity or benefit for one year or more by June 30 of the year before the next January 1 increase will receive the full increase. Recipients receiving the annuity or benefit for less than one year (but more than one month) by June 30 of the year before the next January 1 increase will receive a reduced, prorated increase.

In 2023, the legislature allocated funding for a one-time lump-sum payment to General and Police & Fire Plan benefit recipients. Eligibility criteria and the payment amount is specified in statute. The one-time payment is non-compounding toward future benefits.

Notes to Financial Statements

The benefit provisions stated in this section are current and apply to active plan participants. Vested, terminated employees who are entitled to benefits but are not receiving them yet must follow the provisions in effect at the time they last terminated public service.

D) Benefit Provisions: Statewide Voluntary Firefighter Plan

PERA's Statewide Volunteer Firefighter defined benefit plan is a tax qualified plan under Section 401(a) of the Internal Revenue Code. PERA provides service pensions to members and survivor benefits upon the death of plan members.

An active member of the plan is entitled to a service pension when they have been separated from service for at least 30 days, have reached the age of 50, and have completed at least five years of service credit with the fire department as a member of the lump-sum retirement division or, if they are a member of the monthly benefit retirement division, have completed the minimum vesting requirement as specified in the retirement benefit plan document of the former relief association applicable to the fire department.

The service pension from the lump-sum retirement division is based on completed years of service in the department, the service pension level in effect for the department at termination, and the nonforfeitable percentage of the service pension as specified in statute. Previous years of service with any prior relief association are used to determine a volunteer firefighter's vested percentage. The service pension from the monthly benefit retirement division is specified in the retirement benefit plan document of the former relief association applicable to the fire department.

E) Benefit Provisions: Defined Contribution Plan

The Defined Contribution Plan is a tax qualified plan under Section 401(a) of the Internal Revenue Code and all contributions by or on behalf of employees are tax deferred until time of withdrawal. Plan benefits depend solely on amounts contributed to the plan plus investment earnings, subtracting administrative expenses. Employer and employee contributions are combined and used to purchase shares in one or more of the seven accounts of the Minnesota Supplemental Investment Fund administered by the SBI. Investment options include the Broad International Stock Fund, US Stock Actively Managed Fund, US Stock Index Fund, Balanced Fund, Bond Fund, Stable Value Fund, Money Market Fund, and Private Market Investments (Alternatives). PERA receives 2% of employer contributions paid during the year, plus 0.25% of the assets in each member's account each year for administering the plan.

At the time of retirement or termination, PERA distributes the market value of a member's account to the member or transfers it to another qualified plan or individual retirement account. Upon the member's death, PERA distributes the value of the account to the member's designated beneficiary.

F) Earnings Limitation

Retirees who return to work in a PERA-covered position are subject to the same earnings limitations as Social Security recipients. Benefits are reduced if these limits are exceeded, with the amount held in escrow. The retiree may request a withdrawal of these funds one year after leaving the position. If reemployment extends through the end of a calendar year, the deductions from that year may be reclaimed one year later.

Notes to Financial Statements

The earnings limitation only applies to PERA covered employment. Self or private employment and elected official service will not result in a benefit reduction for retirees. Earnings limits are waived for Coordinated Plan members who begin receiving benefits under a PRO agreement. The Defined Contribution Plan and the Volunteer Firefighter Plan only provide lump-sum benefits, and there are no earnings limits.

G) Disability Benefits

Members may be eligible for benefits from PERA if they are unable to work because of a physical or psychological disability. Disability is defined by statute, and PERA requires periodic medical examinations of members receiving disability benefits. Neither the Defined Contribution Plan nor the Volunteer Firefighter Plan have specific disability benefits.

Disability benefit calculations are based upon years of service and average high-five salary for Coordinated Plan members. For Police & Fire Plan members, there is a minimum duty-related disability benefit of 60% of salary. The minimum duty-related disability benefit is 47.5% for Correctional Plan members. Disability under any other circumstances results in a minimum benefit of 45% of salary for Police & Fire Plan members and 19% for Correctional Plan members. A duty-related disability benefit will only be paid if the disabling event occurred while the member was engaged in hazardous activities inherent to the occupation.

General Employees Plan members qualify for disability when vested for a retirement benefit and by meeting the statutory definition. Police & Fire Plan and Correctional Plan members qualify by meeting the definition with one or more years of service if they developed a disability outside the line of duty. If a member develops a disability in the line of duty, there is no minimum service requirement. Starting July 1, 2023, Police & Fire Plan members with a psychological condition must complete a treatment requirement before applying for a duty disability benefit.

H) Survivor Benefits

PERA provides survivor benefits for families of members who qualify if the member dies before starting retirement benefit payments. The qualifications and types of benefits vary with each plan. As of August 1, 2013, Minnesota recognizes same-sex marriage. PERA's governing statutes make no distinction concerning the gender of a spouse, and the agency follows the state's definition of a valid marriage.

A lifetime survivor benefit is available to the surviving spouse of a General Employees Plan, Correctional Plan, or Police & Fire Plan member. For Police & Fire Plan members, the surviving spouse benefit is based on either 50% of the average of the full-time monthly base salary rate in effect during the last six months of allowable service or a formula using the member's total years of service, high-five salary, age at death, and age of the spouse. The surviving spouse benefit for General Employees Plan and Correctional Plan members is only based on the formula. This benefit is payable to the spouse of a deceased member for life, even upon remarriage. Automatic lifetime survivor benefits are also available to the spouse of Police & Fire Plan members who suffer total and permanent duty disability. Survivor benefits for other disabled members are only available if the member chooses a survivor option on their disability benefit.

For the surviving spouse of a General Employees Plan or Correctional Plan member, there are alternative term-certain benefits of 10, 15, or 20 years duration. The monthly payment, however, may not exceed 75% of the member's average highest 60 months of consecutive salary. Survivor benefits are immediately suspended for any survivor charged with causing the death of a PERA member. The benefit is permanently revoked upon conviction of such a crime.

Dependent children of active or disabled Police & Fire Plan members are eligible for benefits until age 23. In 2023 legislation, the student requirement to receive a benefit between age 18–23 was repealed in statute. Family minimum and maximum benefit percentages apply when calculating the total benefit paid to Police & Fire Plan family members. If a General Employees Plan or Correctional Plan member dies and there is no surviving spouse, any children under age 23 qualify to receive a monthly term-certain benefit.

Instead of a monthly benefit, the surviving spouse, if they are a designated beneficiary, may choose to receive a refund of any remaining employee contributions in the account, plus interest. However, a refund cannot be chosen if there are dependent children who are eligible for benefits.

The Volunteer Firefighter Plan provides for payment of the member's accrued benefits to a surviving spouse or, if none, to minor children or, finally, the member's estate, based on retirement at age 50. Similarly, the Defined Contribution Plan provides for payment of the account balance to beneficiaries.

I) Refunds

Refunds of contributions are available at any time to members who terminate public service and have not yet begun receiving a pension. The refund includes employee contributions plus interest, compounded annually. The interest rate applied is 6% if member contributions were received before June 30, 2011, 4% from July 1, 2011 to June 30, 2018, and 3% on or after July 1, 2018. Employer contributions are not refundable to the member or beneficiary.

A refund of employee contributions plus interest may also be chosen by the designated beneficiary of a member or former member who dies before reaching retirement. If there is no beneficiary, payment is made to the surviving spouse or, if none, to the estate of the deceased member or former member.

If an annuitant or benefit recipient dies before all employee contributions are paid in the form of a pension or benefit, the remaining balance will be paid in the same manner outlined for beneficiaries. No interest is paid to beneficiaries on the balance in an account if the member was receiving retirement benefits.

Notes to Financial Statements

NOTE 2: Summary of Significant Accounting Policies

A) Reporting Entity

PERA functions as a separate statutory entity. PERA maintains rights to sue or be sued in its own name and to hold property in its own name. For financial reporting purposes, PERA is considered a pension trust fund of the State of Minnesota and is included in the State's *Annual Comprehensive Financial Report* with its fiduciary funds. PERA does not have component units.

B) Basis of Presentation and Basis of Accounting

The accompanying financial statements are prepared in accordance with accounting principles generally accepted in the United States of America (GAAP) that apply to governmental accounting for fiduciary funds. Financial statements for all funds are prepared using the accrual basis of accounting. Employee and employer contributions are recognized as revenues when due, pursuant to formal commitments and statutory requirements. Expenses are recorded when the corresponding liabilities are incurred, regardless of when payment is made. Benefits and refunds are recognized when due and payable in accordance with the terms of each plan.

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue and expenses. Actual results could differ from those estimates.

C) Cash and Cash Equivalents

For PERA's defined benefit and defined contribution funds, cash includes cash on deposit in the state's treasury, which is commingled with other state funds. Cash on deposit consists of year-end receipts not yet processed as of the investment cutoff on June 30. The majority of PERA's cash is invested as part of an investment pool with the SBI. PERA's investment in the cash pools is reported as a cash equivalent.

D) Receivables

Accounts receivable represents plan member and employer contributions which are received after fiscal year-end for services rendered prior to fiscal year-end. For the General Employees Fund, the receivable also includes an employer supplemental contribution of $9 million billed in fiscal year 2023 but not due from employers until fiscal year 2024.

Due from other funds represents the reallocation of administrative expenses, which is done annually in October once the fiscal year's expenses have been finalized.

E) Investments

Investment Policy

Article XI of the Minnesota Constitution established the Minnesota State Board of Investment (SBI) to invest all state funds. Membership includes the Minnesota governor (who the law designates as chair of SBI), state auditor, secretary of state, and attorney general. The legislature also established a 17-member Investment Advisory Council (IAC) to advise the SBI and its staff on investment-related matters. PERA's executive director is a permanent member of the IAC.

Minnesota Statute Chapter 11A allows the commingling of the state's public retirement fund assets in various pooled investment accounts (Combined Funds). Each participating retirement fund owns an undivided participation in the Combined Funds' pooled investment accounts. As of June 30, 2023, the participation shares in the Combined Retirement Fund at fair value totaled approximately 31.1% for the General Employees Fund, 12.5% for the Police & Fire Fund, and 1.2% for the Correctional Fund.

PERA reports investments in the pooled accounts, including assets of the Defined Contribution Fund, at fair value. Fair value is the proportionate share of the combined market value of the investment portfolio of the SBI investment pool in which the funds participate. All securities within the pools are valued at fair value except for US government short-term securities and commercial paper, which are valued at market less accrued interest. PERA recognizes accrued interest as short-term income. Note 3 provides additional disclosures on fair value reporting of investments.

A majority vote of the SBI Board may amend SBI investment policy. The policy outlines the investment philosophy and guidelines in how the SBI will manage the Combined Funds' investments.

Minnesota Statute section 11A.24 broadly restricts retirement fund investments to obligations and stocks of United States and Canadian governments, their agencies and their registered corporations, short-term obligations of specified high quality, restricted participation as a limited partner in venture capital, real estate or resource equity investments, restricted participation in registered mutual funds, and some qualified foreign instruments. Short-term investment securities include investments that have high credit quality and are highly liquid. The securities have a low-risk, low-return profile and include US government treasury bills, bank certificates of deposit, bankers' acceptances, corporate commercial paper, and other money market instruments.

PERA recognizes investment income as earned. Accrued investment income of the pooled investment accounts is included in participation in the accounts. Gains and losses on sales or exchanges are recognized on the transaction date.

For financial reporting purposes, the cost of security transactions is included in the transaction price. Investment expenses include administrative expenses of the SBI to manage the state's investment portfolio and investment management fees paid to the external money managers and the state's master custodian for pension plan assets. SBI allocates these expenses to the funds participating in the pooled investment accounts. Information on specific investments owned by the pooled accounts, investment activity, currency risk, interest rate risk, and a detailed schedule of fees and commissions by brokerage firm, along with the number of shares traded, total commissions, and commissions per share for the pooled investment accounts may be obtained from the SBI at 60 Empire Drive, Suite 355, Saint Paul, Minnesota 55103-2088.

Asset Allocation

To match the long-term nature of the pension obligations, the SBI maintains a strategic asset allocation for the combined funds that includes allocations to public equity, fixed income, private markets, and cash equivalents.

The targeted asset allocation is as follows as of June 30, 2023: 50% of the assets are allocated to Public Equity of which 33.5% is allocated to Domestic Equity and 16.5% is allocated to International Equity; 25% of the assets are allocated to Fixed Income of which 10% is Core/Core

Plus and Return Seeking Bonds, 10% is Treasure Protection, 5% is Cash and Laddered Bonds, and 25% is Private Markets.

If an actual allocation deviates 10% or more from the target allocation (except for Private Markets), assets are rebalanced to achieve long-term allocation targets. For example, the target allocation for Fixed Income is 25% of the fund. A 10% deviation would equal 2.5%. The SBI recognizes that in some market situations the allocation to Private Markets may exceed 25% but by statute may not exceed 35%.

Significant Investment Changes During the Year

The SBI Board approved, pursuant to the Investment Advisory Council endorsement and staff's recommendation: 1) the establishment of an approved range of 20–32% around the Private Markets target allocation of 25% of the Combined Funds' market value, and 2) SBI staff's authority to modify internal guidelines, in this case, to increase the Market Value and Unfunded Commitments from 45–50% of the Combined Funds' assets.

Annual Money-Weighted Rate of Return

The annual money-weighted rate of return is a method of calculating period-by-period returns on pension fund investments that adjusts for the changing amounts actually invested. The money-weighted rate of return is calculated as the internal rate of return on pension fund investments, net of pension fund investment expenses. Because the pension funds each have different cash flows throughout the year, they have different money-weighted rates of return. The money-weighted rate of return for each PERA retirement fund is presented in **Figure 3.**

Figure 3. Money-weighted rate of return.

Figure 3: Money-Weighted Rate of Return

Fund	Fiscal Year 2023
General Employees Fund	8.90%
Police & Fire Fund	8.91%
Correctional Fund	8.96%
Volunteer Firefighter Fund	9.29%

Long-term Expected Return on Investment

The long-term expected return on investment is based on the asset allocation study completed by the SBI in 2016. The SBI has historically undertaken an asset allocation study roughly every five years. An asset allocation study will be conducted during 2023–2024.

The long-term expected rate of return on pension plan investments was determined using a building-block method. Best estimates for expected future real rates of return (expected returns, net of inflation) were developed for each asset class using both long-term historical returns and long-term capital market expectations from a number of investment management and consulting organizations. The asset class estimates and the target allocations were then combined to produce a geometric, long-term expected real rate of return for the portfolio. Inflation expectations were applied to derive the nominal rate of return for the portfolio.

The long-term expected return on investment as of June 30, 2023, is shown in **Figure 4.**

Notes to Financial Statements

Figure 4. Target asset allocation and long-term expected real rate of return.

Figure 4: Target Asset Allocation and Long-term Expected Real Rate of Return by Asset Class

Combined Funds

Asset Class	Target Allocation	Long-term Expected Real Rate of Return (Geometric)
Domestic Equity	33.5%	5.10%
International Equity	16.5%	5.30%
Fixed Income	25.0%	0.75%
Private Market	25.0%	5.90%

(1) Public Equity includes Domestic Equity, International Equity and Global Equity for allocation purposes.

(2) Fixed Income includes Core Bonds, Return Seeking Bonds, Treasuries, Cash, and Laddered Bonds.

(3) Private Markets includes Private Equity, Private Credit, Resources, and Real Estate.

Statewide Volunteer Firefighter Fund

Asset Class	Target Allocation	Long-term Expected Real Rate of Return (Geometric)
Domestic Equity	35.0%	5.10%
International Equity	15.0%	5.30%
Bonds	45.0%	0.75%
Cash Equivalents	5.0%	0.00%

F) Capital Assets

Capital assets, which are generally assets with a cost in excess of $30,000 and a useful life greater than one year, are capitalized at cost at the time of acquisition (see Note 4). Depreciation is computed on a straight-line basis over the estimated useful life of the related assets. The estimated useful lives are three to ten years for furniture and equipment, and 40 years for the building. PERA's threshold for intangible assets is $1,000,000. PERA did not have any intangible assets in fiscal year 2023.

G) Accrued Compensated Absences

PERA's employees accrue vacation leave, sick leave, and compensatory leave at various rates within limits specified in collective bargaining agreements. Amounts that are accumulated for compensated absences are accrued when incurred. Such leave is liquidated in cash primarily at the time of termination of employment. The total liability at June 30, 2023, is $1,275,000. Of this, $131,000 is considered a short-term liability and $1,144,000 is considered a long-term liability. The total increased by $21,000 during fiscal year 2023.

H) Administrative Expenses

PERA's administrative expenses are paid during the year from the General Employees Fund. At year-end, a portion of the expenses are allocated to the Police & Fire Fund and the Correctional Fund, based on membership counts. The Defined Contribution Fund reimburses the General Employees Fund to the extent of fees collected for recovery of administrative costs. The Volunteer Firefighter Fund pays administrative expense of departments. The applicable amounts are reported as expenses and reported on the Statement of Fiduciary Net Position as a payable to other funds or due from other funds. Administrative costs are funded from investment income for the defined benefit plans.

Notes to Financial Statements
NOTE 3: Deposits and Investment Risk Disclosures
A) Fair Value Reporting

Governmental Accounting Standards Board (GASB) Statement No. 72, "Fair Value Measurement and Application," sets forth the framework for measuring the fair value of investments based on a hierarchy of valuation inputs. The hierarchy has three levels:

Level 1: Market valuation approach using quoted prices (unadjusted) in active markets for identical assets or liabilities that the reporting entity can access at the measurement date.

Level 2: Market valuation approach using inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly or indirectly. Inputs for Level 2 include:

- Quoted prices for similar assets or liabilities in active markets,
- Quoted prices for identical or similar assets or liabilities in inactive markets,
- Inputs other than quoted prices that are observable for the asset or liability, and
- Inputs derived principally from or corroborated by observable market data by correlation or other means.

Level 3: Unobservable inputs for the asset or liability. Unobservable inputs reflect the SBI's assumptions about the inputs that market participants would use in pricing an asset or liability. Assets classified as a Level 3 typically use the cost approach, income approach, or consensus pricing for a valuation technique.

Net Asset Value (NAV): Investments that do not have a readily determinable fair value are measured using the NAV per share (or its equivalent) as a practical expedient and are not classified in the fair value hierarchy.

Cash and cash equivalents (investments with less than 12 months to maturity) are not leveled per GASB 72. All non-cash investments, including derivative investments that are not hedging derivatives, are required to be measured at fair value on a recurring basis. The SBI maintains investment pools that participants can invest in; participants own a proportionate share of the investment pools. The fair value of the investment pools is priced daily by the SBI custodian, when a daily price is available, by using independent pricing sources.

In Figure 5, Level 3 investments primarily consist of assets where the asset is distressed, or there is not an active market. The fair value of the assets measured at NAV have been determined using the March 31, 2023 values, adjusted for cash flows. The investments measured at NAV are typically not eligible for redemption. Distributions are received as underlying investments within the funds are liquidated, which occur over the life of the investment. The typical liquidation period for alternative investments including private equity, real estate, real assets, and private credit ranges from 3–12 years. The majority of the distributions is received during the liquidation period; however, it is not uncommon for a minimal amount of the fund to remain open while awaiting final close from the general partner.

Notes to Financial Statements

As of June 30, 2023, the alternative investments are not expected to be sold at an amount different from the NAV value of the SBI's ownership interest in partner's capital. PERA's proportionate share of unfunded commitments valued at NAV total $5.392 billion. Unfunded commitments is money that has been committed to an investment but not yet transferred to the general partner (investor).

Explanations of investment types follow the exhibit.

Figure 5. Fair value of PERA investments.

Figure 5: Fair Value of PERA Investments*
As of June 30, 2023
(In thousands)

	Fair Value	Level 1	Level 2	Level 3
Equity Investments				
Common Stock	$18,842,568	$18,841,389	$1,123	$56
Real Estate Investment Trust	409,495	409,495	0	0
Other Equity	684,124	358,139	1,781	324,204
Equity Total	19,936,187	19,609,023	2,904	324,260
Fixed Income Investments				
Bank Loans	107,508	0	107,508	0
Asset-Backed Securities	276,513	0	188,823	87,690
Mortgage-Backed Securities	1,275,823	0	1,274,711	1,112
Corporate Bonds	1,973,850	0	1,973,850	0
Government Issues	4,539,754	0	4,539,101	653
Other Debt Instruments	11,973	0	11,973	0
Fixed Income Total	8,185,421	0	8,095,966	89,455
Investment Derivatives				
Options	78	78	0	0
Rights	0	0	0	0
Swaps	0	0	0	0
Warrants	17	17	0	0
Investment Derivatives Total	95	95	0	0
Total Investments at Fair Value	$28,121,703	$19,609,118	$8,098,870	$413,715

Investments Measured at the Net Asset Value (NAV) (in thousands)	**NAV**	**Percent of NAV**	**Number of Investments**	**Unfunded Commitments**
Private Equity	7,309,817	73%	193	3,714,307
Real Estate	928,652	9%	35	798,829
Real Assets	973,992	10%	32	272,294
Private Credit	771,443	8%	42	606,470
Total Investments at NAV	$9,983,904	100%	302	$5,391,900

*Cash and cash equivalents are not leveled under GASB Statement No. 72, but are included in the exhibit for informational purposes. Any variance between recorded account balances and the fair value of investments as reported in the exhibit are accounts payable and accounts receivable items on June 30, 2023 and not leveled under GASB Statement No. 72.

Notes to Financial Statements

Investment Types

Equity Investments

Common Stock: Securities representing equity ownership in a corporation, providing voting rights, and entitling the holder to a share of the company's success through dividends and/or capital appreciation.

Real Estate Investment Trust (REIT): An investment pool established by a group of investors for the purpose of investing in real estate or mortgages. REITs are generally exempt from federal taxes, provided that 95% of earned income is distributed and that the various investors are not treated differently.

Other Equity: Includes Preferred Stock, Depository Receipts, Limited Partnerships Units, Common Stock Units, and Mutual Funds.

Fixed Income Investments

Bank Loans: A floating rate debt instrument issued by corporations, secured by company property, plant, equipment or other assets and typically senior in the capital structure to other liabilities.

Asset-Backed Securities: Bonds or notes backed by financial assets, including auto loans and credit card receivables.

Mortgage-Backed Securities: An asset-backed security that is secured by a mortgage or collection of mortgages. The mortgages are sold to a government agency or investment bank that will package the loans together into a security that can be purchased by investors.

Corporate Bonds: Debt obligations issued by corporations as an alternative to offering equity ownership by issuing stock. Like most municipal bonds and Treasuries, most corporate bonds pay semi-annual interest and promise to return the principal when the bonds mature. Maturities range from 1–30 years.

Government Issues: Securities or bonds issued by any of the 50 states, the territories and their subdivisions, counties, cities, towns, villages and school districts, agencies (such as authorities and special districts created by the states), and certain federally-sponsored agencies such as local housing authorities.

Other Debt Instruments: Includes Short Term Investment Funds (STIF) type instruments.

Investments Derivatives

Rights: The right to purchase newly issued securities in proportion to an investor's holdings of certain stocks. Generally, they are actively traded and must be exercised within a short period of time.

Warrants: The right to purchase one or more shares of stock. Warrants are usually attached to other issues purchased by an investor. They are often detachable and can be exercised over a long period (five to ten years). A warrant, because it has a value of its own, can be traded.

Options: A contract that gives the holder the right to buy from or sell to the writer a specified amount of securities at a specified price, good for a specified period of time.

Notes to Financial Statements

Swaps: A derivative contract through which two parties exchange the cash flows or liabilities from two different financial instruments. Most swaps involve cash flows based on a notional principal amount such as a loan, bond, or currency. Usually, the principal does not change hands. Each cash flow comprises one leg of the swap. One cash flow is generally fixed, while the other is variable and based on a benchmark interest rate, floating currency exchange rate or index price. The most common kind of swap is an interest rate swap, but currency swaps, credit default swaps and total return swaps on a reference security or basket of securities are also common.

Investments Measured at Net Asset Value (NAV)

Private Equity: The private equity investment strategy is to establish and maintain a broadly diversified private equity portfolio composed of investments that provide diversification by industry type, stage of corporate development and location. The SBI has 193 Private Equity investments representing 73.2% of the NAV value. There are 45 out of 193 Private Equity funds that are over the 12-year liquidation period and represent 6% of the Private Equity NAV value.

Real Estate: The real estate investment strategy calls for the establishment and maintenance of a broadly diversified real estate portfolio composed of investments that provide overall diversification by property type and location. The main components of this portfolio consist of investments in closed-end commingled funds. The remaining portion of the portfolio may include investments in less diversified, more focused (specialty) commingled funds and REITs. The SBI has 35 real estate investments representing 9.3% of the NAV value. There are 8 out of 35 Real Estate funds that are over the 12-year liquidation period and represent 1.2% of the Real Estate NAV value.

Real Assets: The strategy for real assets investments is to establish and maintain a portfolio of real assets investment vehicles that provide an inflation hedge and additional diversification. Real assets investments will include oil and gas investments and energy service industry investments that are diversified by geographic area as well as by type. The SBI has 32 Real Assets investments representing 9.8% of the NAV value (Investments Measured at Net Asset Value). There are 12 out of 32 Real Assets funds that are over the 12-year liquidation period and represent 13.2% of the Real Assets NAV value.

Private Credit: The strategy for private credit investments is to target funds that typically provide a current return and may have an equity component. Structures such as subordinated debt investments and mezzanine investments are typical yield-oriented investments. The SBI has 42 Private Credit investments representing 7.7% of the NAV value (Investments Measured at Net Asset Value). There are 13 out of 42 Private Credit funds that are over the 12-year liquidation period and represent 7.1% of the Private Credit NAV value.

Notes to Financial Statements

B) Custodial Credit Risk

Custodial credit risk for cash deposits and investments is the risk that, in the event of a bank or custodian failure, PERA will not be able to recover the value of its investments or collateral securities. Minnesota Statute section 9.031 requires that cash deposits be secured by depository insurance or a combination of depository insurance and collateral securities held in the state's name by an agent of the state. Such insurance and collateral shall be in amounts sufficient to ensure that deposits do not exceed 90% of the sum of the insured amount and the market value of the collateral. Throughout fiscal year 2023, the combined depository insurance and collateral was sufficient to meet legal requirements and secure all PERA deposits, eliminating exposure to custodial credit risk.

C) Credit Risk

Credit risk is the risk that an issuer or counterparty to an investment will be unable to fulfill its obligations to the holder of the investment. The SBI has policies designed to minimize credit risk. They may invest funds in governmental obligations provided the issue is backed by the full faith and credit of the issuer or the issue is rated among the top four quality rating categories by a nationally-recognized rating agency. They may invest funds in corporate obligations provided the issue is rated among the top four quality categories by a nationally recognized rating agency. They may also invest in unrated corporate obligations or in corporate obligations that are not rated among the top four quality categories provided that:

- The aggregate value of these obligations may not exceed 5% of the fund for which the state board is investing,
- Participation is limited to 50% of a single offering, and
- Participation is limited to 25% of an issuer's obligations.

The SBI may also invest in bankers' acceptances, deposit notes of US banks, certificates of deposit, mortgage securities, and asset-backed securities rated in the top four quality categories by a nationally recognized rating agency. Commercial paper must be rated in the top two quality categories.

PERA's share of SBI's exposure to credit risk, based on the lower of Moody's or S&P Quality Ratings for debt securities and short-term investments, is shown in Figure 6. If a security is rated by only Moody's or S&P, that rating will be used.

Notes to Financial Statements

Figure 6. Credit risk exposure.

Figure 6: Credit Risk Exposure (In thousands)	
Quality Rating	**Fair Value as of June 30, 2023**
AAA	$276,193
AA	5,984,472
A	174,758
BBB	990,317
BB	503,266
B	429,520
CCC	196,246
CC	30,092
C	1,100
D	5,215
Unrated Corporate	1,654,616
Total	$10,245,795

D) Concentration of Credit Risk

Concentration of credit risk is the risk of loss that may be attributed to the magnitude of a government's investment in a single issuer. The SBI determined concentration of credit risk based on security identification number. PERA does not have exposure to a single issuer that equals or exceeds 5% of the overall portfolio and, therefore, there is no material concentration of credit risk.

E) Interest Rate Risk

Interest rate risk is the risk that changes in interest rates of debt investments could adversely affect the fair value of an investment. The SBI does not have a policy on interest rate risk. Debt securities are held in external investment pools and PERA's share has the weighted average maturities shown in **Figure 7.**

Figure 7. Interest rate risk.

Figure 7: Interest Rate Risk	
Security	**Weighted Average Maturity (in years)**
Agency Securities	4.05
Bank Loans	4.57
Asset-Backed Securities	5.46
Foreign Country Bonds	7.65
Mortgage Backed Securities	7.78
Corporate Debt Obligations	8.18
Yankee Bonds	8.80
Collateralized Mortgage Obligations	9.73
US Treasuries	14.06
Municipal Debt Obligations	14.22

Notes to Financial Statements

F) Foreign Currency Risk

Foreign currency risk is the risk that changes in exchange rates between the US dollar and foreign currencies could adversely affect the fair value of an investment. Most foreign currency risk resides within the SBI's international equity investment holdings. In order to reduce foreign currency risk, the SBI has developed and implemented a number of policies. Government obligations, including guaranteed or insured issues of the International Bank for Reconstruction and Development, the Inter-American Development Bank, the Asian Development Bank, and the African Development Bank, must pay interest and principal in US dollars. The principal and interest of obligations of corporations, including those corporations incorporated or organized under the laws of the Dominion of Canada or any province thereof, must also be paid in US dollars. The SBI uses a foreign currency overlay manager to implement an active hedging program for its international developed markets passive equity portfolio. In addition, the SBI active managers also have discretion to use forward currency contracts within their portfolios to hedge foreign currency risk as they deem appropriate. PERA's share of foreign security investments at June 30, 2023 was distributed among the currencies shown in **Figure 8.**

Notes to Financial Statements

Figure 8. Foreign currency risk.

Figure 8: Foreign Currency Risk (Fair value in thousands)			
Currency	**Cash**	**Equity**	**Fixed Income**
EURO CURRENCY	$ 578	$ 2,279,561	$ 68,915
JAPANESE YEN	$ 5,128	$ 926,628	$ —
POUND STERLING	$ 2,214	$ 636,778	$ 17,858
CANADIAN DOLLAR	$ 4,599	$ 461,851	$ 8,625
SWISS FRANC	$ 1,819	$ 410,907	$ —
HONG KONG DOLLAR	$ 421	$ 374,412	$ —
AUSTRALIAN DOLLAR	$ 626	$ 281,269	$ —
NEW TAIWAN DOLLAR	$ 29	$ 192,281	$ —
SOUTH KOREAN WON	$ 142	$ 191,181	$ 1,443
DANISH KRONE	$ 216	$ 147,596	$ —
SWEDISH KRONA	$ 58	$ 131,554	$ —
BRAZILIAN REAL	$ 488	$ 95,058	$ 13,777
YUAN RENMINBI	$ (1,238)	$ 66,720	$ 2,772
SINGAPORE DOLLAR	$ 161	$ 64,197	$ —
MEXICAN PESO	$ 1,289	$ 38,809	$ 17,559
SOUTH AFRICAN RAND	$ 173	$ 38,295	$ 7,342
INDONESIAN RUPIAH	$ 279	$ 36,254	$ 8,215
NORWEGIAN KRONE	$ 59	$ 32,739	$ —
THAILAND BAHT	$ 14	$ 22,759	$ 6,876
NEW ISRAELI SHEQEL	$ 47	$ 15,447	$ —
UAE DIRHAM	$ —	$ 12,506	$ —
POLISH ZLOTY	$ 25	$ 9,803	$ 4,300
SAUDI RIYAL	$ —	$ 9,004	$ —
NEW ZEALAND DOLLAR	$ 39	$ 6,427	$ —
HUNGARIAN FORINT	$ 61	$ 6,270	$ 1,387
MALAYSIAN RINGGIT	$ 36	$ 6,188	$ 5,978
PHILIPPINE PESO	$ 9	$ 6,054	$ —
TURKISH LIRA	$ —	$ 4,358	$ —
QATARI RIAL	$ —	$ 4,223	$ —
KUWAITI DINAR	$ 10	$ 3,770	$ —
CHILEAN PESO	$ 132	$ 2,472	$ 1,638
ROMANIAN LEU	$ 71	$ 953	$ 3,334
CZECH KORUNA	$ 38	$ 700	$ 4,848
COLOMBIAN PESO	$ (135)	$ 480	$ 3,091
EGYPTIAN POUND	$ 76	$ 382	$ —
RUSSIAN RUBLE	$ 307	$ —	$ —
HRYVNIA	$ —	$ —	$ —
URUGUAYAN PESO	$ —	$ —	$ 1,205
MOROCCAN DIRHAM	$ —	$ —	$ —
YUAN RENMINBI OFFSHORE	$ 618	$ —	$ —
DOMINICAN PESO	$ —	$ —	$ 334
SOL	$ 7	$ —	$ 3,106
Total	**$ 18,396**	**$ 6,517,886**	**$ 182,603**

Notes to Financial Statements

G) Derivative Financial Instruments

On behalf of PERA, the SBI invests in various types of derivative financial instruments. Derivatives are defined as any financial arrangement between two parties that has value based on or derived from future price fluctuations. The derivative financial instruments that the SBI enters into include futures, options, stock warrants and rights, currency forwards, and synthetic guaranteed investment contracts.

Minnesota Statute section 11A.24 provides that any agreement for put and call options and futures contracts may only be entered into with a fully offsetting amount of cash or securities. This provision applies to foreign currency forward contracts used to offset the currency risk of a security. All other derivatives are exchange-traded. The purpose of the SBI derivative activity is to equitize cash in the portfolio, to adjust the duration of the portfolio, or to offset current futures positions.

The fair value balances and notional amounts (or face value) at June 30, 2023, classified by derivative instrument type (futures, options, currency forward contracts, stock warrants and stock rights, and swaps), and the changes in fair value for fiscal year 2023, are shown in **Figure 9.** Explanations of each derivative instrument type are presented below.

Figure 9. Derivative financial instruments.

Notes to Financial Statements

Figure 9: Derivative Financial Instruments
(In thousands)

Derivative Investment Type	Changes in Fair Value During Fiscal Year 2023	Fair Value at June 30, 2023	Notional Amount
Futures:			
Equity Futures–Long	$23,355	$0	$865
Equity Futures–Short	($3,389)	$0	($26)
Fixed Income Futures–Long	($91,125)	$0	$992,097
Fixed Income Futures–Short	$77,756	$0	($620,142)
Options:			
Futures Options Bought	($3,586)	$335	$883
Futures Options Written	$3,432	($257)	($2,051)
Equity Options Bought	$5	$0	$0
Equity Options Written	$51	$0	$0
Fixed Income Options Written	$68	$(17)	$(1,579)
Currency Forwards Contracts	$13,531	($22,614)	$13,918,638
Stock Warrants and Rights:			
Stock Warrants	$10	$17	$51
Stock Rights	$1,302	$0	$2
Swaps:			
Credit Default Swaps Bought	$(388)	$(174)	$6,268
Credit Default Swaps Written	$3,125	$1,453	$73,744
Pay Fixed Interest Rate Swaps	$3,647	$3,076	$39,033
Receive Fixed Interest Rate Swaps	($1,883)	($1,002)	$45,934
Return Swaps Equity	$57	$6	($3,404)

Derivative Investment Type Explanations

Futures: Futures are contract commitments to purchase (asset) or sell (liability) at a future date. The net change in the values of futures contracts is settled on a regular basis and gains and losses are included in investment income.

Options: Options are contracts that give buyers or sellers the right to buy (calls) or sell (puts) a security at a predetermined price on a future date. Gains and losses result from variances in the market value of the security that is the subject of the contract that occurred prior to or on the contract specified date. The gains and losses are included in investment income.

Currency Forward Contracts: Foreign currency forward contracts are used to manage portfolio foreign currency risk. The provisions of the contract vary based on what is negotiated between the two parties to the contract.

Stock Warrants and Rights: Stock warrants, similar to options, are the right to purchase shares of a stock at a certain price by a certain date.They usually have five years or more before expiration. When stock warrants are exercised, new shares are issued by the company. Rights are the same but are issued to current stock owners to enable them to retain their relative ownership share. Gains and losses from the sale or exercise of stock warrants and rights are included in investment income.

Swaps: A derivative contract through which two parties exchange the cash flows or liabilities from two different financial instruments. Most swaps involve cash flows based on a notional principal amount such as a loan, bond, or currency. Usually, the principal does not change hands. Each cash flow comprises one leg of the swap. One cash flow is generally fixed, while the other is variable and based on a benchmark interest rate, floating currency exchange rate or index price. The most common kind of swap is an interest rate swap, but currency swaps and credit default swaps on a reference security or basket of securities are also common.

Guaranteed Investment Contract

SBI maintains a fully benefit-responsive synthetic guaranteed investment contract for the Supplemental Investment Fund—Stable Value Fund. The investment objective of the Supplemental Investment Fund—Stable Value Fund is to protect investors from loss of their original investment and to provide a competitive interest rate. On June 30, 2023, the Supplemental Investment Fund—Stable Value Fund portfolio of well-diversified, high-quality, investment-grade fixed income securities had a fair value of $1,562,905,927, which is $105,913,426 below the value protected by the wrap contract. The Supplemental Investment Fund—Stable Value Fund also includes liquid investment pools with a combined fair value of $30,254,941.

Risks

Credit Risk: The SBI is exposed to credit risk through the counterparties in foreign currency forward contracts used to offset the currency risk of a security. PERA is exposed to credit risk through 22 counterparties. These counterparties have S&P credit ratings of BBB+ or better. PERA’s proportionate share of the maximum loss that SBI would have recognized as of June 30, 2023 if all counterparties failed to perform as contracted is $284,144,288.

H) Securities Lending

PERA does not own specific securities, but instead owns shares in pooled funds invested by the SBI. The SBI is authorized to enter into securities lending transactions in accordance with Minnesota Statute chapter 356A.06, subdivision 7, and has, pursuant to a Securities Lending Authorization Agreement, authorized State Street Bank and Trust Company (State Street) to lend its securities to broker-dealers and banks pursuant to a form of loan agreement. The amounts shown on the financial statements are PERA's proportionate share of securities loaned, collateral pledged, and loan income that resulted from the lending activity of the investment managers, retained by the SBI, of these investment pools. The types and amounts of securities loaned are presented in **Figure 10.**

Notes to Financial Statements

Figure 10. Securities loaned.

Figure 10: Securities Loaned (In thousands)	
Investment Type	**Amount as of June 30, 2023**
Domestic Corporate Bonds	$56,875
Domestic Equities	2,114,648
International Equities	76,336
US Government Bonds	249,047
Total	**$2,496,906**

During the fiscal year, State Street lent, at the direction of the SBI, certain securities held by State Street as custodian and received cash or other collateral including securities issued or guaranteed by the US government. State Street does not have the ability to pledge or sell collateral securities delivered absent a borrower default. Borrowers were required to deliver collateral for each loan equal to at least 100% of the market value of the loaned securities.

Pursuant to the Securities Lending Authorization Agreement, State Street had an obligation to indemnify the SBI in the event of default by a borrower. There were no failures by any borrowers to return loaned securities or pay distributions thereon during the fiscal year that resulted in a declaration or notice of default of the borrower.

During the fiscal year, the SBI and the borrowers maintained the right to terminate securities lending transactions upon notice. The cash collateral received on each loan was invested, together with the cash collateral of other qualified tax-exempt plan lenders, in a collective investment pool. As of June 30, 2023, the investment pool had an average duration of 3.10 days and an average weighted final maturity of 77.82 days for USD. Because the loans were terminable at will, their duration did not generally match the duration of the investments made with cash collateral. On June 30, 2023, the SBI had no credit risk exposure to borrowers. The market value of collateral held and the fair value of securities on loan from the SBI as of June 30, 2023 was $2,554,102,993 and $2,496,906,122 respectively. Cash collateral of $2,054,979 is reported on the Statement of Fiduciary Net Position as an asset. Liabilities resulting from these securities lending transactions are also reported on the Statement of Fiduciary Net Position.

Notes to Financial Statements

NOTE 4 : Capital Assets and Long-Term Liabilities

Capital assets are presented on the June 30, 2023, Statement of Fiduciary Net Position at historical cost, net of accumulated depreciation, as summarized in **Figure 11.** There were no leases as of June 30, 2023 that were reported as required by the Governmental Accounting Standards Board Statement 87.

Figure 11. Capital assets.

Figure 11: Capital Assets
(In thousands)

	Balance June 30, 2022	Additions	Disposals	Balance June 30, 2023
Capital Assets, not being depreciated:				
Land	$170	$0	$0	$170
Capital Assets, being depreciated:				
Building (includes generator)	10,893	0	0	10,893
Equipment, Furniture & Fixtures	2,012	0	0	2,012
Total Capital Assets being depreciated	**12,905**	**0**	**0**	**12,905**
Less Accumulated Depreciation for:				
Building (includes generator)	(5,846)	(270)	0	(6,116)
Equipment, Furniture & Fixtures	(1,721)	(96)	0	(1,817)
Total Accumulated Depreciation	**(7,567)**	**(366)**	**0**	**(7,933)**
Total Capital Assets, Net of Accumulated Depreciation on the Statement of Fiduciary Net Position	**$5,508**	**($366)**	**$0**	**$5,142**

Legislation was passed in 1999 allowing PERA, the Minnesota Teacher's Retirement Association (TRA) and the Minnesota State Retirement System (MSRS) to purchase land and construct a 140,000 square foot building to house all three retirement systems. Ownership of the facility is prorated based on the amount of square footage each retirement system occupies in the building. PERA's ownership share is 36.5%. PERA's share of the cost to purchase the 4.3 acres of land was $170,308.

In June 2000, the State of Minnesota, under the authority of the Commissioner of Finance (currently known as Minnesota Management and Budget), issued revenue bonds totaling $29 million on behalf of the three retirement systems to pay for the construction of the facility. In August 2012, the remaining bonds were refunded with the proceeds of a new, lower interest rate bond issue. The new bonds are secured by the value of the total assets of the largest defined benefit plans in the three statewide retirement systems. Through the issuance of the refunding bonds, which received a AAA rating, the bond term was reduced by five years and the present value of the savings to the retirement systems was $9,582,538. PERA's portion of the savings was $3,497,626.

Notes to Financial Statements

Figure 12 shows the debt service amounts for which PERA is directly responsible. Pursuant to the joint and several liability clauses in the bond sale official statement, in the event of default, PERA could be liable for the entire remaining outstanding principal and premium balances of the bonds, plus the interest accrued for the month of June, totaling $2,998,800. Bonds payable on the Statement of Fiduciary Net Position is PERA's share of outstanding debt at the current ownership interest. It includes the principal balance as of June 30, 2023, the premium balance as of June 30, 2023, and interest accrued for the month of June. PERA has no lines of credit or assets pledged as collateral for debt.

Figure 12. Debt repayment schedule by fiscal year.

Figure 12: Debt Repayment Schedule by Fiscal Year

Fiscal Year	Principal	Interest	Premium	Total
2024	$673	$17	$24	$715
2025	$365	$6	$9	$380
	$1,038	$23	$33	$1,095
Total Unpaid Principal, 06/30/23				$1,038
Total Unpaid Premium, 06/30/23				33
Accrued Interest, June 2023				1
Total Bonds Payable on Statement of Fiduciary Net Position				$1,072

Notes to Financial Statements

NOTE 5: Contribution Requirements

Minnesota Statutes, Chapters 353, 353E, 353G, and 356 set the rates for employer and employee contributions. Contribution rates are shown in **Figure 13.**

Figure 13. Retirement plan contribution rates.

Figure 13: Retirement Plan Contribution Rates

		General Employees Fund			Police & Fire Fund	Correctional Fund
Effective Date	Contributor	Basic	Coordinated	MERF		
01/01/2020	Member	9.10%	6.50%	9.75%	11.80%	5.83%
	Employer	11.78%	7.50%	9.75%	17.70%	8.75%

Beginning in fiscal year 2014, the State of Minnesota was required to contribute $9 million each year to the Police & Fire Fund. This state aid will continue until the fund is 90% funded, or until the State Patrol Plan (administered by the Minnesota State Retirement System) is 90% funded, whichever occurs later. In addition, the state pays $9 million each year on October 1 in direct state aid to the Police & Fire Fund until full funding is reached or July 1, 2048, whichever is earlier.

The Minneapolis Employees Retirement Fund (MERF) was fully merged into the General Employees Fund in fiscal year 2015. Supplemental contribution amounts were recalculated after the merger based on the amount of MERF’s unfunded liability as of the merger date. The State of Minnesota will be contributing $16 million and the MERF's employers will be contributing $21 million to the General Employees Fund each year until September 15, 2031.

Minnesota Statutes section 353D.03 specifies contribution rates for those who participate in the Defined Contribution Plan. An eligible elected official or physician who decides to participate contributes 5% of their salary, which is matched by the employer. For ambulance service personnel, employer contributions are determined by the employer, and for salaried employees must be a fixed percentage of salary. Employer contributions for volunteer personnel may be a unit value for each call or period of alert duty. Employees who are paid for their services may elect to make member contributions in an amount not to exceed the employer share.

Employer-required contributions are calculated annually for each employer in the Statewide Volunteer Firefighter Plan. If fire state aid (based on income generated from insurance policies) plus expected investment income are not enough to cover the expected normal cost of benefits during the next calendar year, an employer contribution is calculated and payable by the end of the next calendar year.

Purchasing Service Credits

Authorized Leave of Absence: A member may take an authorized leave of absence from their employment covered by PERA. The member may optionally purchase missing employee and employer contributions, plus interest, to restore the lost credit.

Notes to Financial Statements

Periodic Repetitive Leave: An employer may offer, or mandate, a furlough to all employees. Members participating in the furlough may optionally pay PERA their contributions lost plus interest to restore their high-five salary. Employers are required to remit to PERA the employer portion of the furloughed salary plus interest only after a member payment is received.

Repayment of Refunded Service: A former member who forfeited service credits upon receiving a refund of PERA contributions may repay the refund after having reentered public service for a minimum of six months. This purchase restores the forfeited service credits. Interest charged for a repayment of refund is calculated from the date of the refund at 8.5%, compounded annually until June 30, 2015, 8% July 1, 2015 through June 30, 2018, 7.5% July 1, 2018 through June 30,2023, and 7% July 1, 2023 thereafter.

Prior Military Service: Legislation passed during the 2019 Minnesota legislative session provides PERA members the option to actuarially purchase service credit for one or more periods while in the uniformed services, as defined in United States Code title 38, section 4301 (13). The eligible purchase is for military leave period(s) that occurred before becoming a public employee or during public employment covered by a PERA pension plan when the member missed the original purchase timeframe.

Notes to Financial Statements

NOTE 6: Net Pension Liability of Employers and Nonemployer Contributing Entity

The components of the Net Pension Liability (NPL) of the cost-sharing defined benefit plans for participating employers and the State of Minnesota (a non-employer contributing entity in the General Employees Fund) as of June 30, 2023, calculated in accordance with Governmental Accounting Standards Board Statement No. 67, are shown in **Figure 14.**

Figure 14. Net pension liability components.

Figure 14: Net Pension Liability Components (In thousands)

	General Employees Fund	Police & Fire Fund	Correctional Fund
Total Pension Liability (A)	$33,092,665	$12,765,798	$1,112,405
Fund Fiduciary Net Position (B)	(27,500,777)	(11,038,928)	(1,067,200)
Net Pension Liability (A-B)	**$5,591,888**	**$1,726,870**	**$45,205**
Fund Fiduciary Net Position as a Percentage of the Total Pension Liability (B/A)	**83.1%**	**86.5%**	**95.9%**

A) Actuarial Methods and Assumptions

The total pension liability for each of the cost-sharing defined benefit plans was determined by an actuarial valuation as of June 30, 2023, using the entry age normal actuarial cost method. The long-term rate of return on pension plan investments used in the determination of the total liability is 7%. This assumption is based on a review of inflation and investments return assumptions from a number of national investment consulting firms. The review provided a range of return investment return rates deemed to be reasonable by the actuary. An investment return of 7% was deemed to be within that range of reasonableness for financial reporting purposes.

Inflation is assumed to be 2.25% for the General Employees Plan, Police & Fire Plan, and the Correctional Plan. Benefit increases after retirement are assumed to be 1.25% for the General Employees Plan, 1% for the Police & Fire Plan, and 2% for the Correctional Plan.

Salary growth assumptions in the General Employees Plan range in annual increments from 10.25% after one year of service to 3% after 27 years of service. In the Police & Fire Plan, salary growth assumptions range in annual increments from 11.75% after one year of service to 3% after 24 years of service. In the Correctional Plan, salary growth assumptions range from 11% at age 20 to 3% at age 60.

Mortality rates for the General Employees Plan are based on the Pub-2010 General Employee Mortality Table. Mortality rates for the Police & Fire Plan and the Correctional Plans are based on the Pub-2010 Public Safety Employee Mortality tables. The tables are adjusted slightly to fit PERA's experience.

Notes to Financial Statements

Actuarial assumptions for the General Employees Plan are reviewed every four years. The most recent four-year experience study for the General Employees Plan was completed in 2022. The assumption changes were adopted by the Board and became effective with the July 1, 2023 actuarial valuation. The most recent four-year experience studies for the Police & Fire and the Correctional Plan were completed in 2020 were adopted by the Board and became effective with the July 1, 2021 actuarial valuation.

B) Discount Rate

The discount rate used to measure the total pension liability in 2023 was 7%. The projection of cash flows used to determine the discount rate assumed that contributions from plan members and employers will be made at rates set in Minnesota Statutes. Based on these assumptions, the fiduciary net position of the General Employees, Police & Fire, and Correctional plans were projected to be available to make all projected future benefit payments of current plan 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.

C) Sensitivity Analysis

Figure 15 presents the Net Pension Liability (Asset) of employers and the State of Minnesota for PERA's cost-sharing defined benefit plans as of June 30, 2023, calculated using the current discount rate, as well as what each plan's net pension liability would be if it were calculated using a discount rate that is 1% lower and 1% higher than the current discount rate.

Figure 15. Sensitivity analysis: Net pension liability (asset) at different discount rates.

Figure 15: Sensitivity Analysis - Net Pension Liability (Asset) at Different Discount Rates (Dollars in thousands)

	General Employees Fund		Police & Fire Fund		Correctional Fund	
1% Decrease	6.00%	$9,892,499	6.00%	$3,426,316	6.00%	$238,281
Current Discount Rate	7.00%	$5,591,888	7.00%	$1,726,870	7.00%	$45,205
1% Increase	8.00%	$2,054,472	8.00%	$329,698	8.00%	($108,845)

Notes to Financial Statements

NOTE 7: Other Notes

A) New Asset Transfers

The Volunteer Firefighter Plan was created by the Minnesota Legislature in 2009. The plan is an agent multiple-employer defined benefit retirement plan. Twelve fire departments joined the plan in fiscal year 2023, bringing the total number of fire departments in the Volunteer Firefighter Plan to 217. The amount of assets transferred, almost $10.7 million, is included in Other Additions in Statement of Changes in Fiduciary Net Position. Each fire department has a separate account and retains its own assets and liabilities.

B) Participating Pension Plan

All employees of PERA are covered by the General Employees Coordinated Plan and eligible for the plan provisions described in Note 1, section D. Minnesota Statute section 353.27 sets the rates for employee and employer contributions. These statutes are established and amended by the Minnesota Legislature. Contribution rates were shown previously in Figure 13. Total covered payroll for PERA employees during fiscal year 2023 was approximately $8.4 million.

Employer pension contributions for PERA employees for the fiscal years ending June 30, 2023, 2022, and 2021 were $629,885, $575,191 and $534,637 respectively. Employer contributions were equal to the required contributions for each year as set by state statute. Employer contributions paid by PERA on behalf of these employees are funded by General Employees Fund investment income.

C) GASB Pronouncements

In May 2020, the governmental Accounting Standards board (GASB) issued GASB Statement No. 96, "Subscription-Based Information Technology Arrangements" (SBITA). The adoption of this standard was effective July 1, 2022 and the implementation resulted in no changes to the PERA *Annual Comprehensive Financial Report.*

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Schedule of Changes in Net Pension Liability and Related Ratios*

Required Supplementary Information (unaudited, in thousands)

General Employees Fund

	2023	2022	2021
Total Pension Liability			
Service Cost	$675,709	$648,767	$530,547
Interest on the Total Pension Liability	2,168,019	2,098,002	2,102,259
Change of Benefit Terms	28,123	0	0
Difference between Expected and Actual Experience	186,049	88,206	(154,087)
Assumption Changes	(2,043,586)	72,199	3,476,596
Benefit Payments	(1,808,287)	(1,737,905)	(1,666,103)
Refund Payments	(67,580)	(73,152)	(58,027)
Net Change in Total Pension Liability	(861,553)	1,096,117	4,231,185
Total Pension Liability--Beginning	33,954,218	32,858,101	28,626,916
Total Pension Liability--Ending (a)	33,092,665	33,954,218	32,858,101
Plan Fiduciary Net Position			
Contributions--Employer	581,044	546,291	524,685
Contributions--Member	487,107	457,740	439,488
Contributions--Nonemployer Contributing Entity	16,000	16,000	16,000
Net Investment Income	2,272,563	(1,749,186)	6,712,710
Benefit Payments	(1,808,287)	(1,737,905)	(1,666,103)
Refund Payments	(67,580)	(73,152)	(58,027)
Administrative Expenses	(14,459)	(13,398)	(12,741)
Other **	204	142	182
Net Change in Plan Fiduciary Net Position	1,466,592	(2,553,468)	5,956,194
Plan Fiduciary Net Position--Beginning	26,034,185	28,587,653	22,631,459
Plan Fiduciary Net Position--Ending (b)	27,500,777	26,034,185	28,587,653
Net Pension Liability (a)-(b)	$5,591,888	$7,920,033	$4,270,448
Plan Fiduciary Net Position as a Percentage of Total Pension Liability (b)/(a)	83.10%	76.67%	87.00%
Covered-Employee Payroll	$7,493,954	$7,042,154	$6,761,354
Net Pension Liability as a Percentage of Covered Employee Payroll	74.62%	112.47%	63.16%

*Restated 2016 & 2017 for rounding and other differences; no effect on Plan Fiduciary Net Position.

Schedule of Changes in Net Pension Liability and Related Ratios*

2020	2019	2018	2017	2016	2015	2014
$518,112	$494,737	$513,422	$471,706	$434,551	$421,602	$388,391
2,053,793	1,991,061	1,948,853	1,921,869	1,839,388	1,712,534	1,591,756
(65,850)	0	(79,217)	0	0	1,147,198	0
(30,245)	104,946	8,763	280,527	(647,197)	(348,383)	96,123
(128,849)	(120,162)	(262,228)	(853,320)	2,119,742	0	645,499
(1,604,842)	(1,536,071)	(1,470,450)	(1,413,448)	(1,359,176)	(1,235,303)	(1,109,866)
(84,947)	(65,834)	(42,589)	(37,234)	(37,209)	(35,655)	(38,264)
657,172	868,677	616,554	370,100	2,350,099	1,661,993	1,573,639
27,969,744	27,101,067	26,484,513	26,114,413	23,764,314	22,102,321	20,528,682
28,626,916	27,969,744	27,101,067	26,484,513	26,114,413	23,764,314	22,102,321
509,821	515,444	488,819	477,888	459,978	435,115	382,251
435,419	424,044	409,423	400,204	375,291	353,765	334,495
16,000	16,000	16,000	6,000	6,000	0	0
931,041	1,547,224	2,063,582	2,682,901	(20,851)	777,504	2,760,854
(1,604,842)	(1,536,071)	(1,470,450)	(1,413,448)	(1,359,176)	(1,235,303)	(1,109,866)
(84,947)	(65,834)	(42,589)	(37,234)	(37,209)	(35,655)	(38,264)
(12,268)	(13,470)	(11,943)	(11,292)	(11,350)	(10,367)	(9,861)
267	154	56	411	671	891,914	605
190,491	887,491	1,452,898	2,105,430	(586,646)	1,176,973	2,320,214
22,440,968	21,553,477	20,100,579	17,995,149	18,581,795	17,404,822	15,084,608
22,631,459	22,440,968	21,553,477	20,100,579	17,995,149	18,581,795	17,404,822
$5,995,457	$5,528,776	$5,547,590	$6,383,934	$8,119,264	$5,182,519	$4,697,499
79.06%	80.23%	79.53%	75.90%	68.91%	78.19%	78.75%
$6,698,754	$6,523,754	$6,298,815	$6,156,985	$5,773,708	$5,549,255	$5,351,920
89.50%	84.75%	88.07%	103.69%	140.62%	93.39%	87.77%

Notes to Schedule of Changes in Net Pension Liability and Related Ratios

General Employees Plan

2023 Changes

Changes in Actuarial Assumptions

The investment return assumption and single discount rate were changed from 6.50% to 7.00%.

Changes in Plan Provisions

An additional one-time direct state aid contribution of $170.1 million will be contributed to the Plan on October 1, 2023.

The vesting period for those hired after June 30, 2010 was changed from five years of allowable service to three years of allowable service.

The benefit increase delay for early retirements on or after January 1, 2024 was eliminated.

A one-time, non-compounding benefit increase of 2.5% minus the actual 2024 adjustment will be payable in a lump sum for calendar year 2024 by March 31, 2024.

2022 Changes

Changes in Actuarial Assumptions

The mortality improvement scale was changed from Scale MP-2020 to Scale MP-2021.

Changes in Plan Provisions

There were no changes in plan provisions since the previous valuation.

2021 Changes

Changes in Actuarial Assumptions

The investment return and single discount rates were changed from 7.5% to 6.5%, for financial reporting purposes.

The mortality improvement scale was changed from Scale MP-2019 to Scale MP-2020.

Changes in Plan Provisions

There were no changes in plan provisions since the previous valuation.

2020 Changes

Changes in Actuarial Assumptions

The price inflation assumption was decreased from 2.5% to 2.25%.

The payroll growth assumption was decreased from 3.25% to 3%.

Assumed salary increase rates were changed as recommended in the June 30, 2019 experience study. The net effect is assumed rates that average 0.25% less than previous rates.

Assumed rates of retirement were changed as recommended in the June 30, 2019 experience study. The changes result in more unreduced (normal) retirements and slightly fewer Rule of 90 and early retirements.

Notes to Schedule of Changes in Net Pension Liability and Related Ratios

Assumed rates of termination were changed as recommended in the June 30, 2019 experience study. The new rates are based on service and are generally lower than the previous rates for years 2–5 and slightly higher thereafter.

Assumed rates of disability were changed as recommended in the June 30, 2019 experience study. The change results in fewer predicted disability retirements for males and females.

The base mortality table for healthy annuitants and employees was changed from the RP-2014 table to the Pub-2010 General Mortality table, with adjustments. The base mortality table for disabled annuitants was changed from the RP-2014 disabled annuitant mortality table to the PUB-2010 General/Teacher disabled annuitant mortality table, with adjustments.

The mortality improvement scale was changed from Scale MP-2018 to Scale MP-2019.

The assumed spouse age difference was changed from two years older for females to one year older.

The assumed number of married male new retirees electing the 100% joint & survivor option changed from 35% to 45%. The assumed number of married female new retirees electing the 100% joint & survivor option changed from 15% to 30%. The corresponding number of married new retirees electing the life annuity option was adjusted accordingly.

Changes in Plan Provisions

Augmentation for current privatized members was reduced to 2% for the period July 1, 2020 through December 31, 2023 and 0% after. Augmentation was eliminated for privatizations occurring after June 30, 2020.

2019 Changes

Changes in Actuarial Assumptions

The mortality projection scale was changed from MP-2017 to MP-2018.

Changes in Plan Provisions

The employer supplemental contribution was changed prospectively, decreasing from $31 million to $21 million per year. The state's special funding contribution was changed prospectively, requiring $16 million due per year through 2031.

2018 Changes

Changes in Actuarial Assumptions

The mortality projection scale was changed from MP-2015 to MP-2017.

The assumed benefit increase was changed from 1% per year through 2044 and 2.5% per year thereafter to 1.25% per year.

Changes in Plan Provisions

The augmentation adjustment in early retirement factors is eliminated over a five-year period starting July 1, 2019, resulting in actuarial equivalence after June 30, 2024.

Interest credited on member contributions decreased from 4% to 3%, beginning July 1, 2018.

Notes to Schedule of Changes in Net Pension Liability and Related Ratios

Deferred augmentation was changed to 0%, effective January 1, 2019. Augmentation that has already accrued for deferred members will still apply.

Contribution stabilizer provisions were repealed.

Annual increases were changed from 1% per year with a provision to increase to 2.5% upon attainment of 90% funding ratio to 50% of the Social Security Cost-of-Living Adjustment, not less than 1% and not more than 1.5%, beginning January 1, 2019.

For retirements on or after January 1, 2024, the first benefit increase is delayed until the retiree reaches normal retirement age and does not apply to Rule of 90 retirees, disability benefit recipients, or survivors.

Actuarial equivalent factors were updated to reflect revised mortality and interest assumptions.

2017 Changes

Changes in Actuarial Assumptions

The combined service annuity (CSA) loads were changed from 0.8% for active members and 60% for vested and non-vested deferred members. The revised CSA load are now 0% for active member liability, 15% for vested deferred member liability, and 3% for non-vested deferred member liability.

The assumed annual increase rate was changed from 1% per year for all years to 1% per year through 2044 and 2.5% per year thereafter.

Changes in Plan Provisions

The State's contribution for the Minneapolis Employees Retirement Fund equals $16.0 million in 2017 and 2018 and $6.0 million thereafter.

The Employer Supplemental Contribution for the Minneapolis Employees Retirement Fund changed from $21,000,000 to $31,000,000 in calendar years 2019 to 2031. The State's contribution changed from $16,000,000 to $6,000,000 in calendar years 2019 to 2031.

2016 Changes

Changes in Actuarial Assumptions

The assumed annual increase rate was changed from 1% per year through 2035 and 2.5% per year thereafter to 1% per year for all years.

The assumed investment return was changed from 7.9% to 7.5%. The single discount rate changed from 7.9% to 7.5%.

Other assumptions were changed pursuant to the experience study June 30, 2015. The assumed future salary increases, payroll growth, and inflation were decreased by 0.25% to 3.25% for payroll growth and 2.5% for inflation.

Changes in Plan Provisions

There have been no changes since the prior valuation.

Notes to Schedule of Changes in Net Pension Liability and Related Ratios

2015 Changes

Changes in Actuarial Assumptions

The assumed annual increase rate was changed from 1% per year through 2030 and 2.5% per year thereafter to 1% per year through 2035 and 2.5% per year thereafter.

Changes in Plan Provisions:

On January 1, 2015, the Minneapolis Employees Retirement Fund was merged into the General Employees Fund, which increased the total pension liability by $1.1 billion and increase the fiduciary plan net position by $892 million. Upon consolidation, state and employer contributions were revised; the state's contribution of $6 million, which meets the special funding situation definition, was due September 2015.

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Schedule of Changes in Net Pension Liability and Related Ratios

Required Supplementary Information (unaudited, in thousands)

Police & Fire Fund

	2023	2022	2021
Total Pension Liability			
Service Cost	$385,544	$282,658	$226,012
Interest on the Total Pension Liability	789,647	779,519	758,002
Change of Benefit Terms	67,743	0	0
Difference between Expected and Actual Experience	329,023	187,572	128,782
Assumption Changes	(2,899,706)	1,984,805	1,361,379
Benefit Payments	(669,804)	(633,255)	(592,687)
Refund Payments	(3,747)	(4,196)	(3,060)
Net Change in Total Pension Liability	(2,001,300)	2,597,103	1,878,428
Total Pension Liability--Beginning	14,767,098	12,169,995	10,291,567
Total Pension Liability--Ending (a)	12,765,798	14,767,098	12,169,995
Plan Fiduciary Net Position			
Contributions--Employer	223,305	206,416	201,129
Contributions--Member	144,470	133,023	129,351
Contributions--Nonemployer Contributing Entity	18,000	18,000	18,000
Net Investment Income	912,519	(700,942)	2,672,826
Benefit Payments	(669,804)	(633,255)	(592,687)
Refund Payments	(3,747)	(4,196)	(3,060)
Administrative Expenses	(1,247)	(1,634)	(941)
Other	(61)	(20)	23
Net Change in Plan Fiduciary Net Position	623,435	(982,608)	2,424,641
Plan Fiduciary Net Position--Beginning	10,415,493	11,398,101	8,973,460
Plan Fiduciary Net Position--Ending (b)	11,038,928	10,415,493	11,398,101
Net Pension Liability (a)-(b)	$1,726,870	$4,351,605	$771,894
Plan Fiduciary Net Position as a Percentage of Total Pension Liability (b)/(a)	86.47%	70.53%	93.66%
Covered-Employee Payroll	$1,224,322	$1,127,314	$1,096,195
Net Pension Liability as a Percentage of Covered Employee Payroll	141.05%	386.02%	70.42%

Schedule of Changes in Net Pension Liability and Related Ratios

2020	2019	2018	2017	2016	2015	2014
$217,127	$209,098	$203,131	$318,401	$194,352	$187,959	$169,124
729,945	703,640	682,903	616,740	658,198	648,233	598,165
0	0	(50,771)	0	0	0	0
30,348	14,491	21,720	37,292	(375,575)	(221,112)	1,813
(24,785)	(19,898)	(42,807)	(2,300,201)	2,650,350	0	323,945
(567,040)	(547,699)	(528,468)	(512,379)	(498,608)	(481,330)	(452,462)
(3,181)	(3,283)	(1,902)	(2,119)	(2,391)	(1,953)	(1,633)
382,414	356,349	283,806	(1,842,266)	2,626,326	131,797	638,952
9,909,153	9,552,804	9,268,998	11,111,264	8,484,938	8,353,141	7,714,189
10,291,567	9,909,153	9,552,804	9,268,998	11,111,264	8,484,938	8,353,141
193,819	174,817	170,781	166,329	156,065	144,317	132,632
123,525	111,762	105,479	101,984	95,172	88,733	81,213
13,500	13,500	9,000	9,000	9,000	9,000	9,000
368,949	609,512	813,966	1,058,942	(8,949)	317,556	1,158,389
(567,040)	(547,699)	(528,468)	(512,379)	(498,608)	(481,330)	(452,462)
(3,181)	(3,283)	(1,902)	(2,119)	(2,391)	(1,953)	(1,633)
(924)	(1,018)	(886)	(992)	(906)	(803)	(798)
260	54	58	24	3	84	18
128,908	357,645	568,028	820,789	(250,614)	75,604	926,359
8,844,552	8,486,907	7,918,879	7,098,090	7,348,704	7,273,100	6,346,741
8,973,460	8,844,552	8,486,907	7,918,879	7,098,090	7,348,704	7,273,100
$1,318,107	$1,064,601	$1,065,897	$1,350,119	$4,013,174	$1,136,234	$1,080,041
87.19%	89.26%	88.84%	85.43%	63.88%	86.61%	87.07%
$1,069,481	$1,011,421	$976,657	$944,296	$881,222	$845,076	$820,333
123.25%	105.26%	109.14%	142.98%	455.41%	134.45%	131.66%

Police & Fire Plan

2023 Changes

Changes in Actuarial Assumptions

The investment return assumption was changed from 6.5% to 7.0%.

The single discount rate changed from 5.4% to 7.0%.

Changes in Plan Provisions

Additional one-time direct state aid contribution of $19.4 million will be contributed to the Plan on October 1, 2023.

Notes to Schedule of Changes in Net Pension Liability and Related Ratios

Vesting requirement for new hires after June 30, 2014 was changed from a graded 20-year vesting schedule to a graded 10-year vesting schedule, with 50% vesting after five years, increasing incrementally to 100% after 10 years.

A one-time, non-compounding benefit increase of 3.00% will be payable in a lump sum for calendar year 2024 by March 31, 2024.

Psychological treatment is required effective July 1, 2023 prior to approval for a duty disability benefit for a psychological condition relating to the member's occupation.

The total and permanent duty disability benefit was increased, effective July 1, 2023.

2022 Changes

Changes in Actuarial Assumptions

The mortality improvement scale was changed from Scale MP-2020 to Scale MP-2021.

The single discount rate changed from 6.5% to 5.4%.

Changes in Plan Provisions

There were no changes in plan provisions since the previous valuation.

2021 Changes

Changes in Actuarial Assumptions

The investment return and single discount rates were changed from 7.5% to 6.50%, for financial reporting purposes.

The inflation assumption was changed from 2.5% to 2.25%.

The payroll growth assumption was changed from 3.25% to 3%.

The base mortality table for healthy annuitants and employees was changed from the RP-2014 table to the Pub-2010 Public Safety Mortality table. The mortality improvement scale was changed from MP-2019 to MN-2020.

The base mortality table for disabled annuitants was changed from the RP-2014 healthy annuitant mortality table (with future mortality improvement according to Scale MP-2019) to the Pub-2010 Public Safety disabled annuitant mortality table (with future mortality improvement according to Scale MP-2020).

Assumed rates of salary increase were modified as recommended in the July 14, 2020 experience study. The overall impact is a decrease in gross salary increase rates.

Assumed rates of retirement were changed as recommended in the July 14, 2020 experience study. The changes result in slightly more unreduced retirements and fewer assumed early retirements.

Assumed rates of withdrawal were changed from select and ultimate rates to service-based rates. The changes result in more assumed terminations.

Notes to Schedule of Changes in Net Pension Liability and Related Ratios

Assumed rates of disability were increased for ages 25–44 and decreased for ages over 49. Overall, proposed rates result in more projected disabilities.

Assumed percent married for active female members was changed from 60% to 70%. Minor changes to form of payment assumptions were applied.

Changes in Plan Provisions
There were no changes in plan provisions since the previous valuation.

2020 Changes
Changes in Actuarial Assumptions
The mortality projection scale was changed from MP-2018 to MP-2019.

Changes in Plan Provisions
There have been no changes since the prior valuation.

2019 Changes
Changes in Actuarial Assumptions
The mortality projection scale was changed from MP-2017 to MP-2018.

Changes in Plan Provisions
There have been no changes since the prior valuation.

2018 Changes
Changes in Actuarial Assumptions
The mortality projection scale was changed from MP-2016 to MP-2017.

Changes in Plan Provisions
Annual increases were changed to 1% for all years, with no trigger.

An end date of July 1, 2048 was added to the existing $9 million state contribution.

New annual state aid will equal $4.5 million in fiscal years 2019 and 2020, and $9 million thereafter until the plan reaches 100% funding, or July 1, 2048, if earlier.

Member contributions were changed from 10.8% to 11.3% of pay, effective January 1, 2019, and 11.8% of pay, effective January 1, 2020.

Employer contributions were changed from 16.2% to 16.95% of pay, effective January 1, 2019 and 17.7% of pay, effective January 1, 2020.

Interest credited on member contributions decreased from 4% to 3%, beginning July 1, 2018.

Deferred augmentation was changed to 0%, effective January 1, 2019. Augmentation that has already accrued for deferred members will still apply.

Actuarial equivalent factors were updated to reflect revised mortality and interest assumptions.

Notes to Schedule of Changes in Net Pension Liability and Related Ratios

2017 Changes

Changes in Actuarial Assumptions

Assumed salary increases were changed as recommended in the June 30, 2016 experience study. The net effect is proposed rates that average 0.34% lower than the previous rates.

Assumed rates of retirement were changed, resulting in fewer retirements.

The combined service annuity (CSA) load was 30% for vested and non-vested, deferred members. The CSA has been changed to 33% for vested members and 2% for non-vested members.

The base mortality table for healthy annuitants was changed from the RP-2000 fully generational table to the RP-2014 fully generational table (with a base year of 2006), with male rates adjusted by a factor of 0.96. The mortality improvement scale was changed from Scale AA to Scale MP-2016. The base mortality table for disabled annuitants was changed from the RP-2000 disabled mortality table to the mortality tables assumed for healthy retirees.

Assumed termination rates were decreased to 3% for the first three years of service. Rates beyond the select period of three years were adjusted, resulting in more expected terminations overall.

Assumed percentage of married female members was decreased from 65% to 60%.

Assumed age difference was changed from separate assumptions for male members (wives assumed to be three years younger) and female members (husbands assumed to be four years older) to the assumption that males are two years older than females.

The assumed percentage of female members electing joint and survivor annuities was increased.

The assumed annual benefit increase rate was changed from 1% for all years to 1% per year through 2064 and 2.5% thereafter.

The single discount rate was changed from 5.6% per annum to 7.5% per annum.

Changes in Plan Provisions

There have been no changes since the prior valuation.

2016 Changes

Changes in Actuarial Assumptions

The assumed annual benefit increase rate was changed from 1% per year through 2037 and 2.5% per year thereafter to 1% per year for all future years.

The assumed investment return was changed from 7.9% to 7.5%.

The single discount rate changed from 7.9% to 5.6%.

The assumed future salary increases, payroll growth, and inflation were decreased by 0.25% to 3.25% for payroll growth and 2.5% for inflation.

Notes to Schedule of Changes in Net Pension Liability and Related Ratios

Changes in Plan Provisions

There have been no changes since the prior valuation.

2015 Changes

Changes in Actuarial Assumptions

The assumed annual increase rate was changed from 1% per year through 2030 and 2.5% per year thereafter to 1% per year through 2037 and 2.5% per year thereafter.

Changes in Plan Provisions:

The annual increase to be paid after the attainment of the 90% funding threshold was changed from inflation up to 2.5% to a fixed rate of 2.5%.

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Notes to Schedule of Changes in Net Pension Liability and Related Ratios

Required Supplementary Information (unaudited, in thousands)

Correctional Fund

	2023	2022	2021
Total Pension Liability			
Service Cost	$45,941	$36,877	$32,307
Interest on the Total Pension Liability	71,324	66,604	61,462
Change of Benefit Terms	141	0	0
Difference between Expected and Actual Experience	26,116	(9,042)	(3,822)
Assumption Changes	(309,346)	220,073	137,113
Benefit Payments	(27,117)	(23,372)	(20,088)
Refund Payments	(2,369)	(2,713)	(2,140)
Net Change in Total Pension Liability	(195,310)	288,427	204,832
Total Pension Liability--Beginning	1,307,715	1,019,288	814,456
Total Pension Liability--Ending (a)	1,112,405	1,307,715	1,019,288
Plan Fiduciary Net Position			
Contributions--Employer	20,518	19,227	19,351
Contributions--Member	13,894	12,843	12,948
Net Investment Income	87,393	(66,015)	238,666
Benefit Payments	(27,117)	(23,372)	(20,088)
Refund Payments	(2,369)	(2,713)	(2,140)
Administrative Expenses	(434)	(371)	(344)
Other	0	0	1
Net Change in Plan Fiduciary Net Position	91,885	(60,401)	248,394
Plan Fiduciary Net Position--Beginning	975,315	1,035,716	787,322
Plan Fiduciary Net Position--Ending (b)	1,067,200	975,315	1,035,716
Net Pension Liability (a)-(b)	$45,205	$332,400	($16,428)
Plan Fiduciary Net Position as a Percentage of Total Pension Liability (b)/(a)	95.94%	74.58%	101.61%
Covered-Employee Payroll	$238,319	$220,292	$222,093
Net Pension Liability as a Percentage of Covered Employee Payroll	18.97%	150.89%	(7.40%)

Notes to Schedule of Changes in Net Pension Liability and Related Ratios

2020	2019	2018	2017	2016	2015	2014
$33,172	$30,362	$45,378	$49,202	$25,950	$25,098	$26,488
57,354	52,741	53,811	47,336	40,605	37,043	33,955
0	0	(66,822)	0	0	0	0
(12,083)	(1,846)	1,018	(3,516)	382	(7,892)	(5,327)
(1,977)	(2,206)	(209,457)	(66,147)	310,332	0	(34,168)
(17,569)	(15,381)	(13,183)	(11,033)	(9,381)	(7,777)	(6,711)
(2,709)	(2,244)	(1,364)	(1,478)	(982)	(1,057)	(1,105)
56,188	61,426	(190,619)	14,364	366,906	45,415	13,132
758,268	696,842	887,461	873,097	506,191	460,776	447,644
814,456	758,268	696,842	887,461	873,097	506,191	460,776
19,043	18,676	17,871	17,489	16,490	15,736	15,054
12,692	12,485	11,956	11,666	11,008	10,472	10,030
31,774	50,853	62,962	78,363	209	20,373	69,451
(17,569)	(15,381)	(13,183)	(11,033)	(9,381)	(7,777)	(6,711)
(2,709)	(2,244)	(1,364)	(1,478)	(982)	(1,057)	(1,105)
(332)	(361)	(308)	(330)	(290)	(247)	(236)
0	0	1	0	(2)	(1)	(1)
42,899	64,028	77,935	94,677	17,052	37,499	86,482
744,423	680,395	602,460	507,783	490,731	453,232	366,750
787,322	744,423	680,395	602,460	507,783	490,731	453,232
$27,134	$13,845	$16,447	$285,001	$365,314	$15,460	$7,544
96.67%	98.17%	97.64%	67.89%	58.16%	96.95%	98.36%
$217,702	$214,151	$205,077	$200,103	$188,816	$179,623	$172,041
12.46%	6.47%	8.02%	142.43%	193.48%	8.61%	4.39%

Notes to Schedule of Changes in Net Pension Liability and Related Ratios

Correctional Fund

2023 Changes

Changes in Actuarial Assumptions

The investment return rate was changed from 6.50% to 7.00%.

The Single Discount Rate was changed from 5.42% to 7.00%.

Changes in Plan Provisions

Additional one-time direct state aid contribution of $5.3 million will be contributed to the Plan on October 1, 2023.

A one-time, non-compounding benefit increase of 2.5% minus the actual 2024 adjustment will be payable in a lump sum for calendar year 2024 by March 31, 2024.

The maximum benefit increase will revert back to 2.5%, if the maximum increase is 1.5% and the Plan's funding ratio improves to 85% for two consecutive year on a market value of assets basis.

2022 Changes

Changes in Actuarial Assumptions

The mortality improvement scale was changed from Scale MP-2020 to Scale MP-2021.

The single discount rate changed from 6.5% to 5.42%.

The benefit increase assumption was changed from 2% per annum to 2% per annum through December 31, 2054 and 1.5% per annum thereafter.

Changes in Plan Provisions

There were no changes in plan provisions since the previous valuation.

2021 Changes

Changes in Actuarial Assumptions

The investment return and single discount rates were changed from 7.5% to 6.5%, for financial reporting purposes.

The inflation assumption was changed from 2.5% to 2.25%.

The payroll growth assumption was changed from 3.25% to 3%.

The base mortality table for healthy annuitants and employees was changed from the RP-2014 table to the Pub-2010 Public Safety Mortality table. The mortality improvement scale was changed from MP-2019 to MN-2020.

The base mortality table for disabled annuitants was changed from the RP-2014 healthy annuitant mortality table (with future mortality improvement according to Scale MP-2019) to the Pub-2010 Public Safety disabled annuitant mortality table (with future mortality improvement according to Scale MP-2020).

Assumed rates of salary increase were modified as recommended in the July 10, 2020 experience study. The overall impact is a decrease in gross salary increase rates.

Notes to Schedule of Changes in Net Pension Liability and Related Ratios

Assumed rates of retirement were changed as recommended in the July 10, 2020 experience study. The changes result in slightly more unreduced retirements and fewer assumed early retirements.

Assumed rates of withdrawal were changed as recommended in the July 10, 2020 experience study. The new rates predict more terminations, both in the three-year select period (based on service) and the ultimate rates (based on age).

Assumed rates of disability lowered.

Assumed percent married for active members was lowered from 85% to 75%.

Minor changes to form of payment assumptions were applied.

Changes in Plan Provisions
There have been no changes since the prior valuation.

2020 Changes
Changes in Actuarial Assumptions
The mortality projection scale was changed from MP-2018 to MP-2019.

Changes in Plan Provisions
There have been no changes since the prior valuation.

2019 Changes
Changes in Actuarial Assumptions
The mortality projection scale was changed from MP-2017 to MP-2018.

Changes in Plan Provisions
There have been no changes since the prior valuation.

2018 Changes
Changes in Actuarial Assumptions
The single discount rate was changed from 5.96% per annum to 7.5% per annum.

The mortality projection scale was changed from MP-2016 to MP-2017.

The assumed annual increase was changed from 2.5% per year to 2% per year.

Changes in Plan Provisions
The augmentation adjustment in early retirement factors is eliminated over a five-year period starting July 1, 2019, resulting in actuarial equivalence after June 30, 2024.

Interest credited on member contributions decreased from 4% to 3%, beginning July 1, 2018.

Deferred augmentation was changed to 0%, effective January 1, 2019. Augmentation that has already accrued for deferred members will still apply.

Annual increases were changed from 2.5% per year with a provision to reduce to 1% if the funding status declines to a certain level to 100% of the Social Security Cost of Living

Notes to Schedule of Changes in Net Pension Liability and Related Ratios

Adjustment, not less than 1% and not more than 2.5%, beginning January 1, 2019. If the funding status declines to 85% for two consecutive years or 80% for one year, the maximum increase will be lowered to 1.5%.

Actuarial equivalent factors were updated to reflect revised mortality and interest assumptions.

2017 Changes

Changes in Actuarial Assumptions

The base mortality table for healthy annuitants was changed from the RP-2000 fully generational table to the RP-2014 fully generational table (with a base year of 2006), with male rates adjusted by a factor of 0.96. The mortality improvement scale was changed from Scale AA to Scale MP-2016, and is applied to healthy and disabled members. The base mortality table for disabled annuitants was changed from the RP-2000 disabled mortality table to the RP-2014 disabled annuitant mortality table (with future mortality improvement according to MP-2016).

The combined service annuity (CSA) load was 30% for vested and non-vested, deferred members. The CSA has been changed to 35% for vested members and 1% for non-vested members.

The single discount rate was changed from 5.31% per annum to 5.96% per annum.

Changes in Plan Provisions

There have been no changes since the prior valuation.

2016 Changes

Changes in Actuarial Assumptions

The assumed investment return was changed from 7.9% to 7.5%. The single discount rate changed from 7.9% to 5.31%.

The assumed future salary increases, payroll growth, and inflation were decreased by 0.25% to 3.25% for payroll growth and 2.5% for inflation.

Changes in Plan Provisions

There have been no changes since the prior valuation.

2015 Changes

Changes in Actuarial Assumptions

There have been no changes since the prior valuation.

Changes in Plan Provisions

There have been no changes since the prior valuation.

Schedule of Contributions from Employers and Nonemployers

Required Supplementary Information (in thousands)

General Employees Fund

Year Ended June 30	Actuarially Determined Contribution (A)	Statutorily Determined Contribution (B)	Actual Contributions (C)	Contribution Deficiency (Excess) (A)-(C)	Covered Payroll (D)	Actual Contribution as a % of Covered Payroll (C)/(D)
2023	$355,963	$597,044	$597,044	($241,081)	$7,493,954	7.97%
2022	$368,305	$562,291	$562,291	($193,986)	$7,042,154	7.98%
2021	$448,278	$540,685	$540,685	($92,407)	$6,761,354	8.00%
2020	$455,515	$525,821	$525,821	($70,306)	$6,698,754	7.85%
2019	$453,401	$531,444	$531,444	($78,043)	$6,523,754	8.15%
2018	$609,725	$504,819	$504,819	$104,906	$6,298,815	8.01%
2017	$615,083	$483,888	$483,888	$131,195	$6,156,985	7.86%
2016	$542,151	$465,978	$465,978	$76,173	$5,773,708	8.07%
2015	$523,017	$435,115	$435,115	$87,902	$5,549,255	7.84%
2014	$476,321	$382,251	$382,251	$94,070	$5,351,920	7.14%

Notes to Schedule of Contributions

Required Supplementary Information

Methods and Assumptions: General Employees Fund

The following methods and assumptions are used to calculate actuarially determined contributions and are, in a few cases, different from the methods and assumptions used to calculate the net pension liability in accordance with Governmental Accounting Standards Board requirements.

Valuation Date:	June 30, 2022
Actuarial Cost Method:	Entry Age Normal
Amortization Method:	Level percentage of payroll, closed
Remaining Amortization Period:	26 years
Asset Valuation Method:	5-year smoothed market, no corridor
Inflation:	2.25%
Payroll Growth Rate:	3.00%
Salary Increases:	3.00% to 10.25% including inflation
Investment Rate of Return:	7.50%
Retirement Age:	Experience-based table of rates that are specific to the type of eligibility condition. Last updated for the 2020 valuation pursuant to an experience study of the period 2014 - 2019.
Mortality:	Pub-2010 General annuitant generational mortality tables, projected with scale MP-2021 from a base year of 2010. Male rates are multiplied by a factor of 1.02 and female rates are multiplied by a factor of 0.90.
Cost-of-Living Increase:	The plan is assumed to pay a 1.25% annual increase for all future years.

Schedule of Contributions from Employers and Nonemployers

Required Supplementary Information (in thousands)

Police & Fire Fund

Year Ended June 30	Actuarially Determined Contribution (A)	Statutorily Determined Contribution (B)	Actual Contributions (C)	Contribution Deficiency (Excess) (A)-(C)	Covered Payroll (D)	as a % of Covered Payroll (C)/(D)
2023	$161,733	$241,305	$241,305	($79,572)	$1,224,322	19.71%
2022	$153,766	$224,416	$224,416	($70,650)	$1,127,314	19.91%
2021	$174,405	$219,129	$219,129	($44,724)	$1,096,195	19.99%
2020	$177,855	$207,319	$207,319	($29,464)	$1,069,481	19.39%
2019	$173,459	$188,317	$188,317	($14,858)	$1,011,421	18.62%
2018	$193,183	$179,781	$179,781	$13,402	$976,657	18.41%
2017	$165,252	$175,329	$175,329	($10,077)	$944,296	18.57%
2016	$189,375	$165,065	$165,065	$24,310	$881,222	18.73%
2015	$197,325	$153,317	$153,317	$44,008	$845,076	18.14%
2014	$163,985	$141,632	$141,632	$22,353	$820,333	17.27%

Notes to Schedule of Contributions

Required Supplementary Information

Methods and Assumptions: Police & Fire Fund

The following methods and assumptions are used to calculate actuarially determined contributions and are, in a few cases, different from the methods and assumptions used to calculate the net pension liability in accordance with Governmental Accounting Standards Board requirements.

Valuation Date:	June 30, 2022
Actuarial Cost Method:	Entry Age Normal
Amortization Method:	Level percentage of payroll, closed
Remaining Amortization Period:	26 years
Asset Valuation Method:	5-year smoothed market, no corridor
Inflation:	2.25%
Payroll Growth Rate:	3.00%
Salary Increases:	3.00% to 11.75% including inflation
Investment Rate of Return:	7.50%
Retirement Age:	Experience-based table of rates that are specific to the type of eligibility condition. Last updated for the 2021 valuation pursuant to an experience study of the period 2015 - 2019.
Mortality:	Pub-2010 Public Safety Mortality Tables projected with mortality improvement scale MP-2021, from a base year of 2010. Male retiree rates adjusted by a factor of 0.98.
Cost-of-Living Increase:	The plan is assumed to pay a 1.00% post retirement benefit increase for all future years.

Schedule of Contributions from Employers and Nonemployers

Required Supplementary Information (in thousands)

Correctional Fund

Year Ended June 30	Actuarially Determined Contribution (A)	Statutorily Determined Contribution (B)	Actual Contributions (C)	Contribution Deficiency (Excess) (A)-(C)	Covered Payroll (D)	Actual Contribution as a % of Covered Payroll (C)/(D)
2023	$13,251	$20,518	$20,518	($7,267)	$238,319	8.61%
2022	$13,063	$19,227	$19,227	($6,164)	$220,292	8.73%
2021	$19,167	$19,351	$19,351	($184)	$222,093	8.71%
2020	$19,593	$19,043	$19,043	$550	$217,702	8.75%
2019	$19,466	$18,676	$18,676	$790	$214,151	8.72%
2018	$19,031	$17,871	$17,871	$1,160	$205,077	8.71%
2017	$17,269	$17,489	$17,489	($220)	$200,103	8.74%
2016	$16,446	$16,490	$16,490	($44)	$188,816	8.73%
2015	$13,759	$15,736	$15,736	($1,977)	$179,623	8.76%
2014	$14,606	$15,054	$15,054	($448)	$172,041	8.75%

Notes to Schedule of Contributions

Required Supplementary Information

Methods and Assumptions: Correctional Fund

The following methods and assumptions are used to calculate actuarially determined contributions and are, in a few cases, different from the methods and assumptions used to calculate the net pension liability in accordance with Governmental Accounting Standards Board requirements.

Valuation Date:	June 30, 2022
Actuarial Cost Method:	Entry Age Normal
Amortization Method:	Level percentage of payroll, closed
Remaining Amortization Period:	26 years (30 years when plan is fully funded)
Asset Valuation Method:	5-year smoothed market, no corridor
Inflation:	2.25%
Payroll Growth Rate:	3.00%
Salary Increases:	3.00% to 11.00% including inflation
Investment Rate of Return:	7.50%
Retirement Age:	Experience-based table of rates that are specific to the type of eligibility condition. Last updated for the 2021 valuation pursuant to an experience study of the period 2015 - 2019
Mortality:	PUB-2010 annuitant generational Public Safety mortality table projected with mortality improvement scale MP-2021, from a base year of 2010. Male rates adjusted by a factor of 0.98.
Cost-of-Living Increase:	The plan is assumed to pay a 2.00% post-retirement benefit increase for all years.

Schedule of Investment Returns

Required Supplementary Information (unaudited)

Rate of Return for Combined Funds				
Year	General Employees Fund	Police & Fire Fund	Correctional Fund	Volunteer Firefighter Fund
2023	8.90%	8.91%	8.96%	9.29%
2022	(6.23%)	(6.24%)	(6.36%)	(13.08%)
2021	30.29%	30.27%	30.21%	20.61%
2020	4.29%	4.24%	4.24%	6.83%
2019	7.33%	7.31%	7.42%	8.11%
2018	10.47%	10.48%	10.35%	5.83%
2017	15.23%	15.22%	15.22%	10.31%
2016	(0.07%)	(0.09%)	0.08%	2.82%
2015	4.45%	4.46%	4.42%	2.83%
2014	18.66%	18.66%	18.56%	13.12%

The annual money-weighted rate of return for each plan is net of investment expenses.

This schedule is intended to show information for ten years; additional years will be displayed as the information becomes available.

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Schedule of Investment Expenses

For the Fiscal Year Ended June 30, 2023
(In thousands)

	General Employees	Police & Fire Plan	Correctional Plan	SVF	DCP	Total
Source of Expenses						
Outside Money Managers--Equities	$4,522	$1,815	$175	$16	$9	$6,537
Outside Money Managers--Fixed Income	1,644	657	61	17	7	2,386
Minnesota State Board of Investment	2,291	919	88	12	7	3,317
AON Investment	193	77	7	0	0	277
Broadridge	113	45	4	0	0	162
Meketa	159	64	6	0	0	229
Albourne	469	188	18	0	0	675
Total Investment Expenses	**$9,391**	**$3,765**	**$359**	**$45**	**$23**	**$13,583**

A Schedule of Investment Fees paid to money managers is provided in the Investment Section of this report.

Schedule of Payments to Consultants

For the Fiscal Year Ended June 30, 2023
(In thousands)

Actuary	
Gabriel Roeder Smith & Co	*$275*
Total Actuary	**275**
Financial Services	
Clifton Larson Allen LLP	*105*
MMB / OLA Audit Fees	*145*
Peltier Nicholas	*3*
SVF Audit Fees	*26*
Total Financial Services	**279**
Legal	
Administrative Hearings	*7*
Attorney General	*1*
Ice Miller LLP	*39*
Total Legal	**47**
Management Consultants	
Access Information Management of MN Inc	*22*
Campaign Workshop, Inc.	*22*
Do Good	*1*
LexisNexis Risk Data Mgmt	*12*
Momentive Inc	*2*
MSRS	*3*
Nighthawk Inc	*28*
Pension Benefit Information LLC	*80*
Public Employees Retirement Association	*163*
Total Management Consultants	**333**
Medical Evaluations	
MMRO	*683*
Total Medical Evaluations	**683**
Information Technology Consultants	
Active Campaign	*4*
CDW	*44*
Computer Forensic Services	*98*
DocuWare	*31*
Paragon Development Systems	*168*
Total System Development	**345**
Total Professional Service Fees	**$1,962**

Schedule of Administrative Expenses

For the Fiscal Year Ended June 30, 2023
(In thousands)

Personnel Expenses:	
Staff Salaries	*$11,196*
Part-Time, Seasonal Labor	*248*
Other Benefits	*210*
Total Personnel Expenses	**$11,654**
Professional Services:	
Actuary	275
Financial	279
Legal	47
Management Consultants	333
Medical Evaluations	683
System Development	345
Total Professional Services	**$1,962**
Communications	
Mail & Telephone Services	*$731*
Printing & Advertising	*305*
Total Communications	**$1,036**
Office Building & Maintenance	
Building	*$465*
Depreciation - Building	*270*
Bond Interest	*28*
Total Office Building & Maintenance	**$763**
Other:	
Depreciation - Equipment	*$97*
Employee Development	*86*
Equipment Maintenance	*29*
Indirect Costs	*30*
Operating Costs	*24*
Supplies & Materials	*137*
Travel	*61*
Total Other	**$1,257**
Total Administrative Expenses	**$16,672**

Allocation of Administrative Expenses:	
Defined Benefit Plans	
Public Employees Retirement Fund	*$14,459*
Public Employees Police and Fire Fund	*1,247*
Public Employees Correctional Fund	*434*
Statewide Volunteer Firefighter	*201*
Defined Contribution Plan	
Defined Contribution Plan	*331*
Total Administrative Expenses	**$16,672**

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INVESTMENT SECTION

2023 ANNUAL COMPREHENSIVE FINANCIAL REPORT

Investment Report

Board Members:
Governor Tim Walz, Chair
State Auditor Julie Blaha
Secretary of State Steve Simon
Attorney General Keith Ellison

Executive Director & Chief Investment Officer:
Jill E. Schurtz

Minnesota State Board of Investment
60 Empire Drive, Suite 355
St. Paul, MN 55103
Phone: (651) 296-3328
Fax: (651) 296-9572
Email: minn.sbi@state.mn.us
Website: https://mn.gov/sbi
An Equal Opportunity Employer

INVESTMENT AUTHORITY

The Minnesota State Board of Investment (SBI) invests the assets of the Public Employees Retirement Association (PERA), the Teachers Retirement Association, and the Minnesota State Retirement System in accordance with Minnesota Statute Chapters 11A and 356A. The SBI includes Minnesota's governor, auditor, secretary of state, and attorney general. The legislature has established a 17-member Investment Advisory Council (IAC) to advise the SBI and its staff on investment related matters. PERA's executive director is a member of the IAC.

INVESTMENT POLICY

Minnesota law requires the SBI to operate within standard investment practices of the prudent person rule. The SBI is required to "exercise that degree of judgment and care, under circumstances then prevailing, which persons of prudence, discretion, and intelligence exercise in the management of their own affairs, not for speculation, but for investment, considering the probable safety of their capital as well as the probable income to be derived therefrom." (Refer to Minnesota Statute sections 11A.09 and 356A.04.) The SBI is authorized to own government obligations, corporate obligations, various short-term obligations, equity, real estate, and resource investments, whether publicly or privately traded, subject to specific constraints. (Refer to Minnesota Statute section 11A.24.) The SBI must manage the pension fund assets for the exclusive benefit of the plan participants and beneficiaries. (Refer to Minnesota Statutes, section 356A.05.)

INVESTMENT OBJECTIVES AND PERFORMANCE

PERA's pension contributions from employees and employers are invested in the Combined Funds. The Combined Funds include the assets of the defined benefit plans administered by PERA, the Minnesota State Retirement System, and the Minnesota Teachers Retirement Association. PERA does not own any underlying assets, but instead owns a participation in the pooled Combined Funds. Because these assets normally accumulate for thirty to forty years, SBI's objective is to take advantage of the long investment time horizon offered by equities and alternative assets to meet its actuarial return target and ensure that sufficient funds are available to finance promised benefits at the time of retirement. In 2023, the Minnesota legislature lowered the actuarial return assumption to 7% annually for the three statewide retirement systems invested in the Combined Funds.

Investment Report

The long term objectives of the Combined Funds are to:

a. Provide returns that are 3–5 percentage points greater than inflation over the latest 20-year period; and

a. Outperform a composite market index weighted in a manner that reflects the actual asset mix of the Combined Funds over the latest 10-year period.

Consistent with these objectives, the SBI maintains a long-term strategic asset allocation policy target for the Combined Funds as follows:

a. Public Equity	50%
b. Total Fixed Income	25%
c. Private Markets	25%

Based on values as of June 30, 2023, the Combined Funds' 20-year annualized return was 8.5%, which exceeded inflation as measured by CPI by 6.0 percentage points. Over the last ten-year period, the Combined Funds returned 8.8%, outperforming the composite index by 0.2%. Investment returns ranked in the 15th and 25th percentile over the past five and ten-year time periods respectively, and in the top fifth percentile over the past 20 years, compared to other public plans with over $20 billion in assets in the Trust Universe Comparison Service.

INVESTMENT PRESENTATION

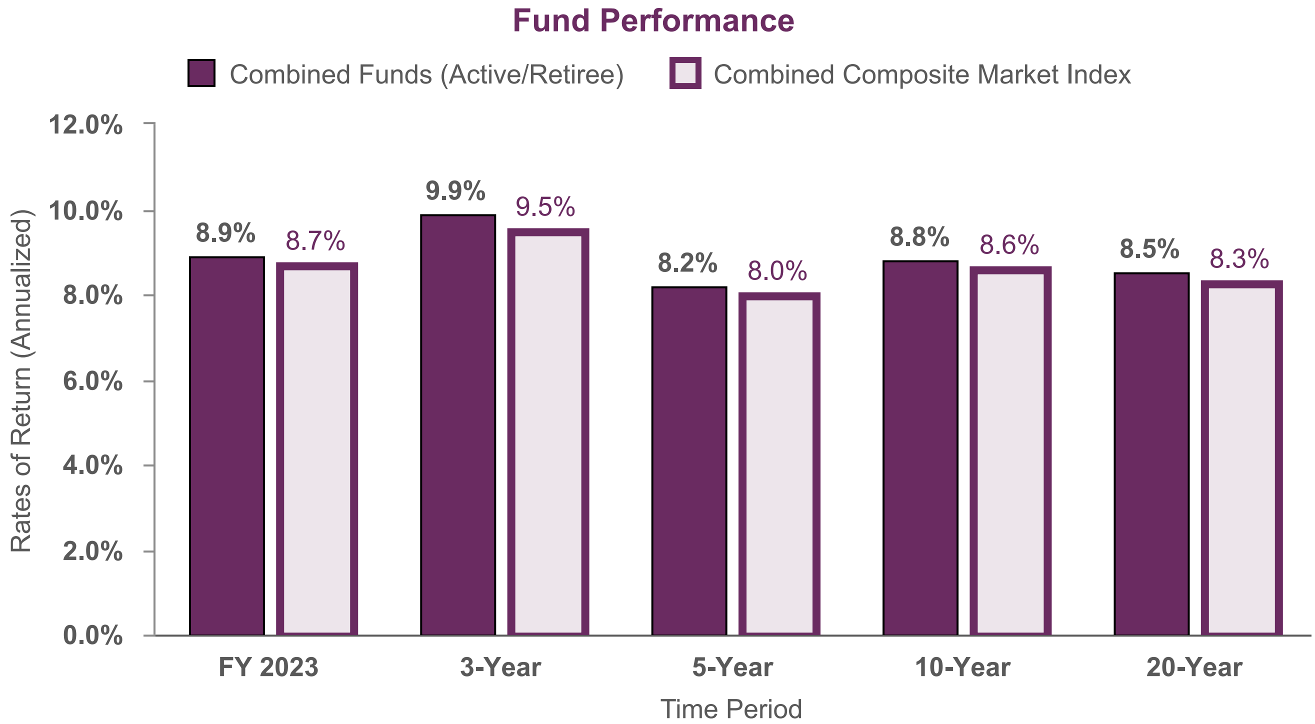
Investment returns were prepared using time-weighted rate of return methodology based upon fair market value, net of investment expenses.

Respectfully submitted,

Jill E. Schurtz

Executive Director and Chief Investment Officer
Minnesota State Board of Investment
December 13, 2023

Investment Results



Fund Performance

	Rates of Return (Annualized)				
Fund	**FY 2023**	**3-Year**	**5-Year**	**10-Year**	**20-Year**
Combined Funds (Active/Retiree)*	8.9%	9.9%	8.2%	8.8%	8.5%
Combined Composite Market Index	8.7%	9.5%	8.0%	8.6%	8.3%

**Percentages are net of all management fees.*

All composite indices are composed of the following market indicators, weighted according to asset allocation:

Public Equity: The Combined Funds Public Equity includes Domestic Equity, International Equity, and Global Equity. The Public Equity benchmark is 67% Russell 3000 and 33% MSCI ACWI ex US (net).

Fixed Income: The Combined Funds Fixed Income program includes Core/Core Plus, Return Seeking Fixed Income, Treasuries, and Laddered Bond + Cash. The Total Fixed Income benchmark is 40% Bloomberg Barclays US Aggregate Index, 40% Bloomberg Barclays Treasury 5+ Years Index, and 20% ICE BofA US Three-Month Treasury Bill.

Investment Results

Investment Returns by Asset Class

Performance of Asset Pools (Net of Fees)

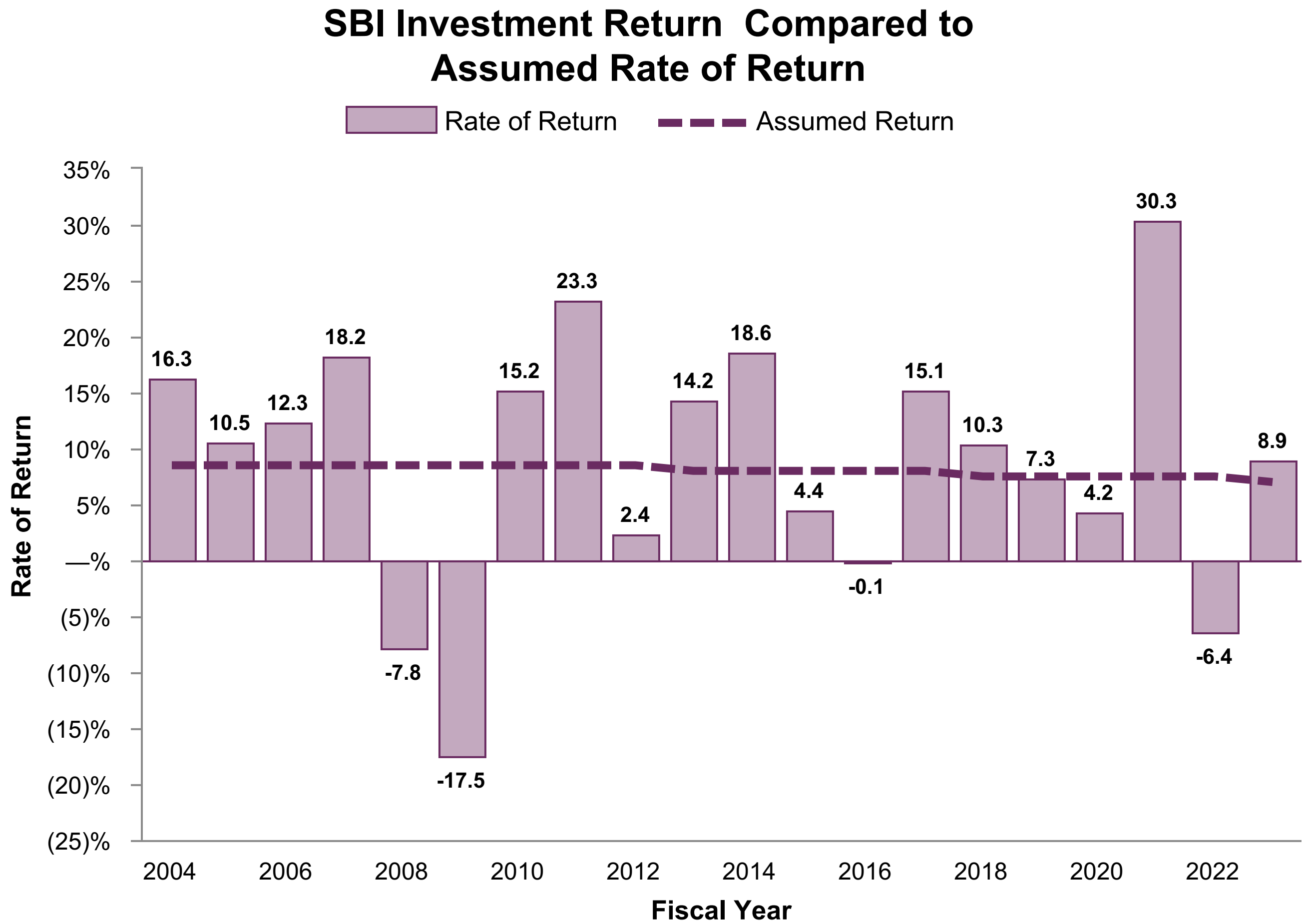
	Rates of Return (Annualized)				
	FY 2023	3-Year	5-Year	10-Year	20-Year
Public Equity*	**17.4%**	**12.2%**	**9.0%**	**10.2%**	**9.1%**
Domestic Equity	19.1%	14.1%	11.3%	12.3%	10.0%
Domestic Equity Benchmark	19.0%	14.0%	11.3%	12.3%	10.0%
International Equity	14.0%	8.8%	4.5%	5.4%	7.1%
International Equity Benchmark	12.7%	7.2%	3.5%	4.7%	6.7%
Global Equity***	17.1%				
Global Equity Benchmark	16.5%				
Fixed Income**	**0.1%**	**(4.0)%**	**1.7%**	**2.3%**	**3.6%**
Core/Core Plus	0.3%	(3.3)%	1.3%	2.0%	3.5%
Core Bonds Benchmark	(0.9)%	(4.0)%	0.8%	1.5%	3.0%
Return Seeking Fixed Income	5.1%				
Return Seeking Fixed Income Benchmark	(0.9)%				
Treasuries	(4.4)%	(8.1)%			
Treasuries Benchmark	(4.3)%	(8.2)%			
Laddered Bond + Cash	3.8%	1.2%	1.5%	1.0%	1.6%
Laddered Bond + Cash Benchmark	3.6%	1.3%	1.6%	1.0%	1.4%
Private Markets	**1.8%**	**20.5%**	**13.5%**	**12.7%**	**14.0%**
Private Equity	1.5%	22.8%	17.0%	16.3%	16.2%
Private Credit	9.1%	16.1%	11.7%	13.1%	12.9%
Resources	2.8%	17.1%	3.9%	2.4%	13.0%
Real Estate	(3.3)%	16.7%	12.4%	12.7%	9.7%

Prior to 6/30/16 the returns of Domestic and International Equity were not reported as a total Public Equity

***Since 12/1/2020 the Total Fixed Income includes allocations to Core/Core Plus Bonds, Return Seeking Bonds, Treasuries and Laddered Bond + Cash. From 7/1/2020 to 11/30/2020 Total Fixed Income was Core Bonds, Treasuries, and Cash. From 2/1/2018 to 6/30/20 Total Fixed Income was Core Bonds and Treasuries. Prior to 2/1/2018, Total Fixed Income was Core Bonds.*

Note: Investment returns were calculated using a time-weighted rate of return.

Investment Results



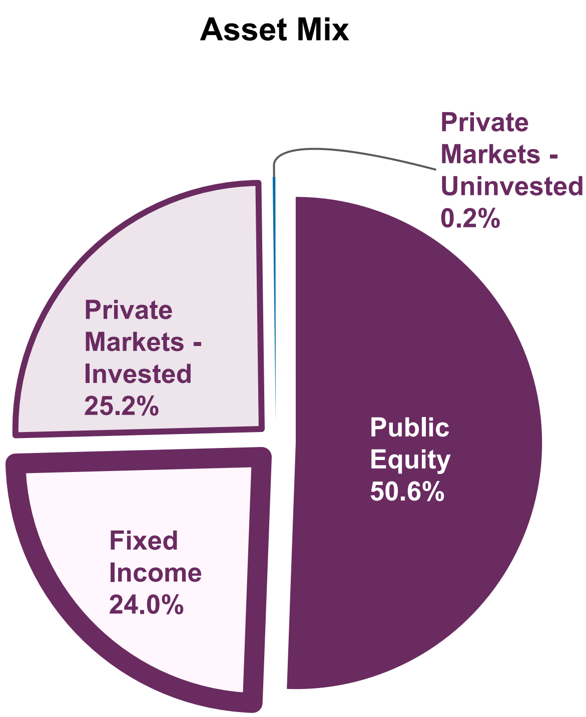
The State Board of Investment (SBI) has exceeded its assumed rate of return 11% of the past 20 years. Over those 20 years, the SBI has had annualized investment earnings of 8.9%.

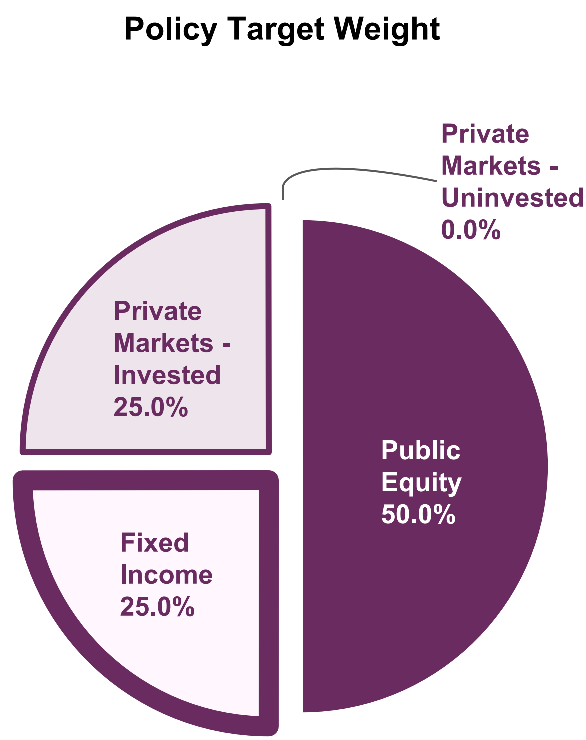
Asset Allocation

As of June 30, 2023

Combined Funds		
Investment Type	**Actual Asset Mix**	**Policy Target Weight**
Public Equity	50.6%	50.0%
Fixed Income	24.0%	25.0%
Private Markets - Invested	25.2%	25.0%
Private Markets - Uninvested	0.2%	0.0%
Total	100%	100%

Percentages are net of all management fees.





List of Largest Assets Held

As of June 30, 2023

Top Ten Equity Holdings (By Fair Value)

Security	Fair Value (In millions)	% of Portfolio
APPLE INC	$851.00	2.22%
MICROSOFT CORP	787.00	2.05%
MSBI SIF	777.12	2.02%
BLACKROCK LONG TERM PRIVATE CA	725.47	1.89%
AMAZON.COM INC	369.82	0.96%
NVIDIA CORP	339.37	0.88%
TESLA INC	221.16	0.58%
ALPHABET INC CL A	220.21	0.57%
META PLATFORMS INC CLASS A	198.63	0.52%
ALPHABET INC CL C	181.87	0.47%

Top Ten Fixed Income Holdings (by Fair Value)

Security	Fair Value (In millions)	% of Portfolio	Maturity Date	Coupon %
US TREASURY N/B	$142.83	0.37%	11/15/2032	4.125%
US TREASURY N/B	110.19	0.29%	10/31/2024	5.389%
US TREASURY N/B	100.32	0.26%	7/15/2023	0.125%
US TREASURY N/B	91.34	0.24%	11/15/2028	3.125%
US TREASURY N/B	90.44	0.24%	8/31/2029	3.125%
US TREASURY N/B	87.23	0.23%	5/15/2029	2.375%
US TREASURY N/B	73.24	0.19%	5/15/2043	2.875%
US TREASURY N/B	73.18	0.19%	8/15/2032	2.750%
US TREASURY N/B	72.98	0.19%	3/31/2029	2.375%
US TREASURY N/B	72.57	0.19%	8/31/2023	0.125%

PERA's assets are commingled in various pooled investment accounts administered by the State Board of Investment. PERA does not own specific values of the underlying assets. The percentages shown are those of the total pooled accounts. The fair value amounts are based on PERA's participation in the pools. Information on investment activity, a listing of specific investments owned by the pooled accounts and a schedule of fees and commissions can be obtained from the Minnesota State Board of Investment.

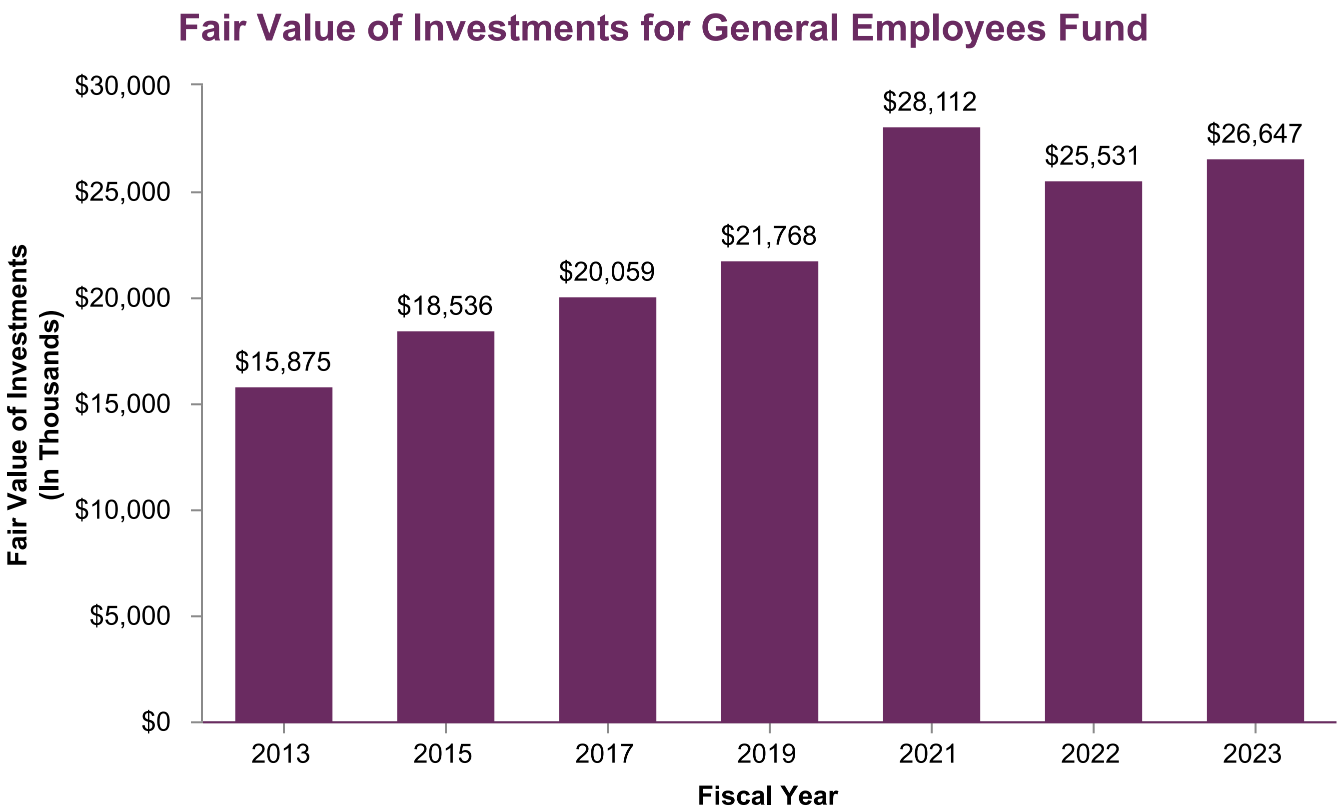
Investment Summary at Fair Value

For the Fiscal Year Ended June 30, 2023 (in thousands)

	2023 Beginning Fair Value	2023 Ending Fair Value	Percent of Total Fair Value
General Employees Fund			
Publicly Traded Equity Securities			
Domestic Equity	$8,580,025	$9,202,021	35%
Broad International Stock Pool	3,853,977	4,370,877	16%
Global Equity Pool	268,977	315,028	1%
Publicly Traded Debt Securities	5,965,549	5,830,410	22%
Uninvested Private Equity	314,826	—	0%
Private Investments	6,547,264	6,928,404	26%
Total Pooled Accounts	**$25,530,618**	**$26,646,740**	**100%**
Police & Fire Fund			
Publicly Traded Equity Securities			
Domestic Equity	$3,435,125	$3,695,840	35%
Broad International Stock Pool	1,543,012	1,755,491	16%
Global Equity Pool	107,165	125,513	1%
Publicly Traded Debt Securities	2,385,899	2,337,364	22%
Uninvested Private Equity	125,288	—	0%
Private Investments	2,621,319	2,782,680	26%
Total Pooled Accounts	**$10,217,808**	**$10,696,888**	**100%**
Correctional Fund			
Publicly Traded Equity Securities			
Domestic Equity	$323,582	$359,419	35%
Broad International Stock Pool	145,410	170,721	16%
Global Equity Pool	9,540	11,174	1%
Publicly Traded Debt Securities	222,439	223,184	22%
Uninvested Private Equity	11,023	—	0%
Private Investments	247,026	270,615	26%
Total Pooled Accounts	**$959,020**	**$1,035,113**	**100%**
Volunteer Firefighter Fund			
Publicly Traded Equity Securities			
Domestic Equity	$44,680	$55,709	38%
Broad International Stock Pool	19,541	22,971	16%
Publicly Traded Debt Securities	61,304	66,111	46%
Total Pooled Accounts	**$125,525**	**$144,791**	**100%**

Fair Value of Investments

Last 10 Years (in millions)

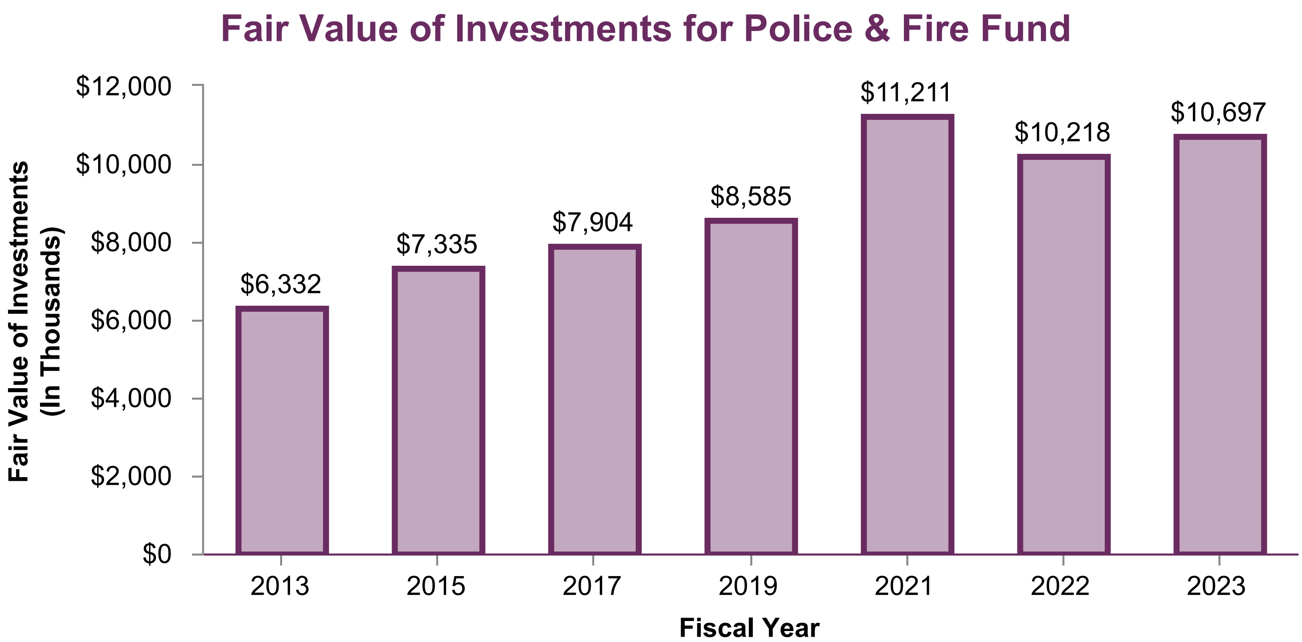


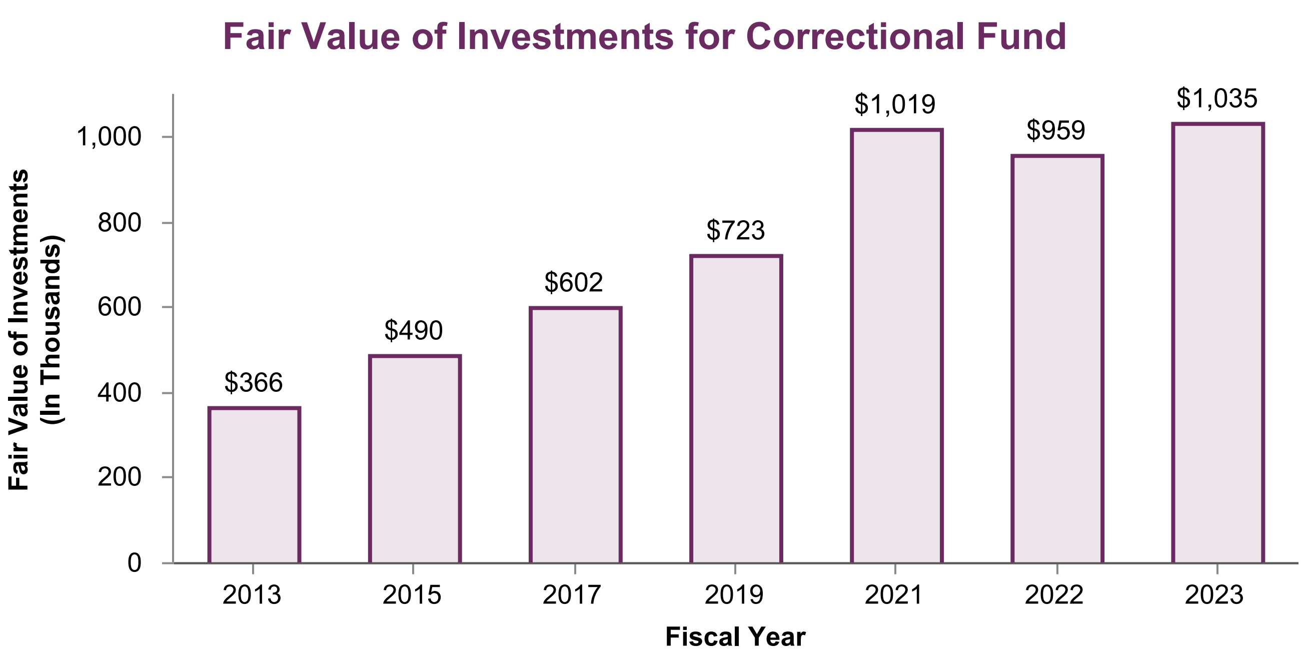
General Employees Fund

Minneapolis Employees Retirement Fund was merged into the General Employees Fund on January 1, 2015.

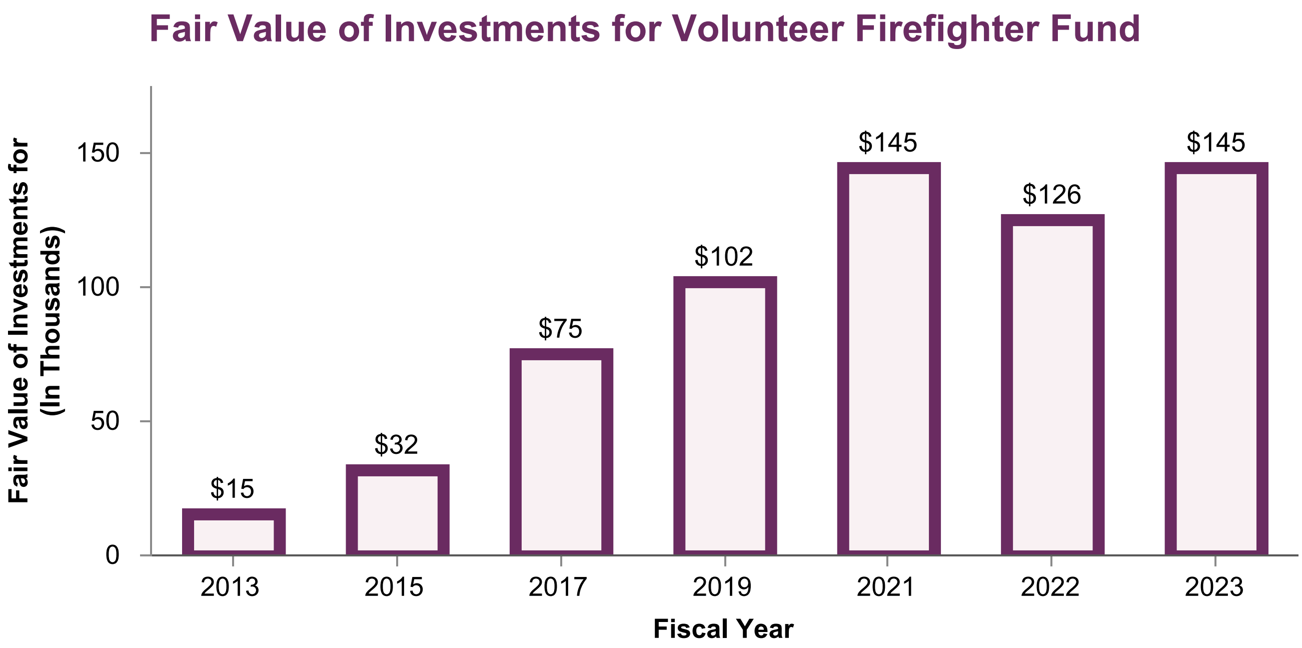
For comparison purposes, both funds are combined on this illustration.

Fair Value of Investments





Fair Value of Investments



Schedule of Investment Fees

For Fiscal Year Ended June 30, 2023 (in thousands)	
State Board of Investment	$3,318
AON Investment	277
Broadridge	163
Meketa	228
Albourne	674
Total	4,660
Outside Money Managers:	
Active Domestic Equity:	
ZEVENBERGEN CAPITAL	104
WINSLOW CAPITAL	7
BARROW, HANLEY	21
LSV ASSET	(50)
SANDS CAPITAL	238
PEREGRINE CAPITAL	83
GOLDMAN EQUITY	200
HOTCHKIS AND WILEY	307
MARTINGALE	4
WELLINGTON MANAGEMNT COMPANY LLP	58
ARROWMARK ASSET MANAGEMENT LLC	142
HOOD RIVER CAPITAL MGMT LLC	186
RICE HALL JAMES & ASSCOC. LLC	152
Total	1,452
Passive Domestic Equity:	
Blackrock	2
Passive Domestic Equity Large Cap:	
Blackrock Passive	120
Passive Domestic Equity Small Cap:	
Blackrock Passive	0
Semi Passive Equity:	
Blackrock	174
JP Morgan	183
Total	357
Domestic Bonds:	
Blackrock Financial Mgmt	75
Dodge & Cox	127
Goldman	115
Neuberger	113
Western Asset Management	134
Total	564
Return Seeking Fixed Income:	
Columbia	150
Pimco	223
Blackrock	229
Ashmore EMD	155
KKR High Yield	98
Oaktree High Yield	118
PGIM FI Mac	122
Payden & Rygel Mav	116
TCW	136
Ashmore	3
Total	1,350

Schedule of Investment Fees

International Equity:	
Acadian Asset	213
State Street Emerging	55
AQR Capital Management	85
Fidelity Investments GPK2	152
JP Morgan Fleming	150
Earnest Partners, LLC	145
Macquarie/Delaware Investments	210
Martin Currie, Inc.	226
Marathon Asset	148
Morgan Stanley Dean Witter	314
Neuberger Berman Investment	274
Pzena Investment Management	313
Rock Creek	500
Columbia Investments	156
State Street	79
Record Currency	961
Earnest Partners, LLC	175
Ashmore	3
Total	4,159
Global Equity:	
Martin Currie Global Equity	115
Ariel Global Equity	211
Baillie Gifford Global Equity	122
Total	448
Treasury Protection Pool:	
Blackrock Financial	143
Goldman Sachs	143
Neuberger Berman	126
Total	412
Ladder Portfolio:	
Goldman	30
Neuberger	29
Total	59
Uninvested Private Markets:	
NISA Cash Overlay	—
Blackrock S&P 500	—
Total	0
Supplemental Investment Funds	
Galliard - Fixed Income	2
Total Investment Fees	**$13,585**

Note: PERA's assets are commingled in various pooled investment accounts administered by the State Board of Investment (SBI). The SBI uses outside money managers and consultants to invest the assets. The amounts in this schedule represent PERA's share of fees paid to SBI, and fees paid by SBI to consultants and money managers. A listing of commissions paid to brokers by the money managers can be obtained from SBI.

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ACTUARIAL SECTION

2023 ANNUAL COMPREHENSIVE FINANCIAL REPORT

Actuary's Certification Letter

December 12, 2023

Board of Trustees
Public Employees Retirement
Association of Minnesota (PERA)
60 Empire Drive, Suite 200
St. Paul, Minnesota 55103-2088

Dear Members of the Board:

We have previously prepared and presented to you our annual actuarial valuation of the General Employees Retirement Plan, the Public Employees Police & Fire Plan, and the Local Government Correctional Service Retirement Plan as of July 1, 2023. In order to gain a full understanding of the actuarial condition of the plans, it is important to read and understand the full actuarial reports and potentially other relevant information, in addition to this *Annual Comprehensive Financial Report.* The actuarial reports are available on PERA's website, along with online copies of this and previous *Annual Comprehensive Financial Reports.* Reading this *Annual Comprehensive Financial Report* is not a substitute for reading the actuarial reports.

Valuation Results

The fundamental financing objective of the fund is to establish contribution rates which will remain approximately level as a percentage of active member payroll from generation to generation and meet the required deadline for full funding. The results of the valuations for funding purposes are summarized in the following table. They are based upon the statutory 7% discount rate. For all of the plans, because the valuations smooth asset gains and losses over five years, the actuarial value of assets is higher than the market value of assets. The funding ratios and contribution sufficiencies/(deficiencies) on both bases are presented in the following table:

	Accrued Liability Funding Ratio		Contribution Sufficiency/ (Deficiency) (% of Pay)		
Plan	**Actuarial Value of Assets**	**Market Value of Assets**	**Actuarial Value of Assets**	**Market Value of Assets**	**Statutory Amortization Date**
General Employees	83.60%	83.10%	3.51%	3.37%	2048
Police & Fire	87.00%	86.47%	1.36%	1.02%	2049
Correctional Service	96.68%	95.94%	1.71%	1.53%	2053

Actuary's Certification Letter

The contribution sufficiencies shown on the previous page include one-time direct State aid payable in October 2023. If the one-time direct State aid was reflected as an offset to the actuarial accrued liability (instead of being reflected as a Statutory Contribution for the upcoming year), the Contribution Sufficiency/(Deficiency) on an Actuarial Value of Assets basis would be 1.43% of Pay for the General Employees Plan, (0.15%) of Pay for the Police & Fire Plan, and (0.24%) of Pay for the Correctional Service Plan.

A contribution sufficiency means that the fund is expected to meet the goal of full funding by (or before) the statutory amortization date. A contribution deficiency means the opposite; full funding will not be attained by the statutory amortization date.

The funded ratio measurements shown on the previous page are not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations (of transferring the obligations to an unrelated third party in an arm's length market value transaction). The measurements also are dependent upon the actuarial cost method which, in combination with the plan's amortization policy, affects the timing and amounts of future contributions. The amounts of future required contributions will be different from those calculated in the actuarial reports due to future actual experience differing from assumed experience based upon the actuarial assumptions. A funded status measurement of 100% is not synonymous with no required future contributions. A plan with a funded status of 100% would still require future normal cost contributions (i.e., contributions to cover the cost of the active membership accruing an additional year of service credit).

The following change was recognized this year in the funding valuations for all plans:

a. The statutory investment return assumption was changed from 7.50% to 7.00%.

The following changes were recognized this year by the General Employees Retirement Plan:

a. An additional one-time direct State aid contribution of $170.1 million was contributed to the Plan on October 1, 2023;

b. The vesting period for those hired after June 30, 2010 was changed from five years of allowable service to three years of allowable service;

c. The benefit increase delay for early retirements on or after January 1, 2024 was eliminated; and

d. A one-time, non-compounding benefit increase of 2.5% (4.0% for Basic and MERF) minus the actual 2024 adjustment will be payable in a lump sum for calendar year 2024 by March 31, 2024.

Actuary's Certification Letter

The following changes were recognized this year by the Public Employees Police and Fire Plan:

a. An additional one-time direct State aid contribution of $19.4 million was contributed to the Plan on October 1, 2023;

b. The vesting requirement for new hires after June 30, 2014 was changed from a graded 20-year vesting schedule to a graded 10-year vesting schedule, with 50% vesting after five years, increasing incrementally to 100% after 10 years;

c. A one-time, non-compounding benefit increase of 3.00% will be payable in a lump sum for calendar year 2024 by March 31, 2024;

d. Psychological treatment is required effective July 1, 2023 prior to approval for a duty disability benefit for a psychological condition relating to the member's occupation;

e. A total and permanent duty disability benefit was added, effective July 1, 2023; and

f. Per Minnesota Statute 356.215, subdivision 11, the statutory amortization date was changed from June 30, 2048 to June 30, 2049.

The following changes were recognized this year by the Local Government Correctional Service Retirement Plan:

a. An additional one-time direct State aid contribution of $5.3 million was contributed to the Plan on October 1, 2023.

b. A one-time, non-compounding benefit increase of 2.5% minus the actual 2024 adjustment will be payable in a lump sum for calendar year 2024 by March 31, 2024.

c. The maximum benefit increase will revert back to 2.5%, if the maximum increase is 1.5% and the Plan's funding ratio improves to 85% for two consecutive years on a market value of assets basis.

d. Per Minnesota Statute 356.215, Subdivision 11, the statutory amortization date was changed from June 30, 2048 to June 30, 2053.

GRS performed a brief review of the basic financial and membership data provided to us by the Association as of June 30, 2023, and determined that the data appears reasonable in comparison to last year. We have relied upon the data as submitted in performing the actuarial valuation and preparing trend data schedules. The actuarial cost method and the assumptions related to asset valuation and investment return are specified by State statute. All other assumptions are defined in the standards for actuarial work adopted by the Legislative Commission on Pensions and Retirement (LCPR), and are based on actual experience with changes recommended by the actuary, adopted by the PERA Board, and approved by the LCPR.

The assumptions and methods used for funding purposes meet the guidance set by the *Actuarial Standards of Practice.*

Actuary's Certification Letter

Actuarial standards do not require the actuary to evaluate the ability of the plan sponsor or other contributing entity to make required contributions to the plan when due. Such an evaluation was not within the scope of this project and is not within the actuary's domain of expertise. Consequently, the actuary performed no such evaluation.

The actuary prepared the following supporting schedules in the Actuarial Section of the Annual Comprehensive Financial Report:

a. Schedule of Funding Progress;

b. Determination of Contribution Sufficiency;

c. Determination of Actuarial Value of Assets; and

d. Schedule of Changes in Unfunded Actuarial Accrued Liabilities.

All other supporting schedules in the Actuarial Section, along with the Schedule of Changes in Net Pension Liabilities and Related Ratios and the Schedule of Contributions from Employers and Non-Employers in the Financial Section of the *Annual Comprehensive Financial Report* were prepared by PERA based on information included in the actuary's annual valuation.

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

To the best of our knowledge and belief, the valuations were performed in accordance with generally accepted actuarial principles and procedures, current Governmental Accounting Standards Board (GASB) pronouncements, the requirements of Minnesota Statute section 356.215, and the requirements of the Standards for Actuarial Work established by the LCPR. In our opinion, the results of the valuations reflect the actuarial position of the plans on an ongoing basis under the prescribed assumptions, methods, and procedures.

Bonita J. Wurst and Sheryl L. Christensen are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. In addition, GRS meets the requirements of "approved actuary" under Minnesota Statute section 356.215, subdivision 1, paragraph (c). The signing actuaries are independent of the plan sponsor. We are not aware of any relationship that would impair the objectivity of our work.

Respectfully submitted,
Gabriel, Roeder, Smith & Company

Bonita J. Wurst

Bonita J. Wurst, ASA, EA, FCA, MAAA

Sheryl Christensen

Sheryl L. Christensen, FSA, EA, FCA, MAAA
BJW/SLC:rl

Summary of Actuarial Assumptions and Methods

PERA implemented GASB Statement No. 67 in fiscal year 2014, which requires pension plans to calculate and disclose a net pension liability in financial statement footnote disclosures using a specific set of actuarial methods and assumptions. The schedules found in the Actuarial Section of this *Annual Comprehensive Financial Report*, on the other hand, are based on actuarial assumptions and methods specified by Minnesota Statutes or approved by the Legislative Commission on Pensions and Retirement to determine funding requirements. The demographic actuarial assumptions are based on experience studies of PERA's demographics for each plan conducted by PERA's actuary.

PERA's actuary uses the funding actuarial assumptions disclosed on the following pages when preparing the actuarial valuations. This section includes the Summary of Actuarial Assumptions and Methods along with the year adopted for each cost-sharing, multiple-employer defined benefit plan.

While some of the actuarial assumptions used for GASB financial reporting purposes are the same as the actuarial assumptions used for funding purposes, there are a few differences. For example, when calculating the net pension liability for reporting purposes, the fair value of assets is used in accordance with GASB 67. When calculating the unfunded actuarial accrued liability for funding purposes, the actuarial value of assets (smoothed over a five-year period) is used in accordance with Minnesota Statutes.

The actuarial assumptions used in the funding actuarial valuations are set in statute or approved by the Legislative Commission on Pensions and Retirement. PERA's actuary uses the funding actuarial assumption disclosed on the following pages when preparing the financial reporting actuarial valuations. The Summary of Actuarial Assumptions and Methods are listed on the following pages along with the year adopted for each plan.

A summary of plan provisions is available in the Notes to the Financial Statements. The responsibility for establishing and maintaining a funding policy rests with the Minnesota Legislature.

Summary of Actuarial Assumptions and Methods

Actuarial Value of Assets

General Employees Retirement Plan	July 1, 2023 Estimated Valuation Results		
$ in Billions, Contributions as % of Pay	**Using 6%**	**Using 7%**	**Using 8%**
Normal Cost Rate	8.52%	10.59%	7.04%
Amortization of Unfunded Liability			
Level % of Pay to 2048	4.47%	7.24%	1.72%
Expenses, % of Pay	0.20%	0.20%	0.20%
Total Required Contribution, % of Pay	13.19%	18.03%	8.96%
Contribution Sufficiency/(Deficiency), % of Pay	3.51%	(1.33)%	7.74%
Accrued Liability Funding Ratio	83.6%	74.0%	93.6%
Present Value of Projected Benefits (a)	$38.1	$44.2	$33.4
Present Value of Future Normal Costs (b)	$5.0	$6.8	$3.8
Actuarial Accrued Liability (a-b)	$33.1	$37.4	$29.6
Unfunded Accrued Liability	$5.4	$9.7	$1.9

Police & Fire Retirement Plan	July 1, 2023 Estimated Valuation Results		
$ in Billions, Contributions as % of Pay	**Using 6%**	**Using 7%**	**Using 8%**
Normal Cost Rate	23.26%	29.72%	18.51%
Amortization of Unfunded Liability			
Level % of Pay to 2048	8.50%	15.48%	1.49%
Expenses, % of Pay	0.11%	0.11%	0.11%
Total Required Contribution, % of Pay	31.87%	45.31%	20.11%
Contribution Sufficiency/(Deficiency), % of Pay	1.36%	(12.08)%	13.12%
Accrued Liability Funding Ratio	87.0%	76.8%	97.7%
Present Value of Projected Benefits (a)	$15.4	$18.1	$13.3
Present Value of Future Normal Costs (b)	$2.6	$3.6	$1.9
Actuarial Accrued Liability (a-b)	$12.8	$14.5	$11.4
Unfunded Accrued Liability	$1.7	$3.4	$0.3

Local Correctional Retirement Plan	July 1, 2023 Estimated Valuation Results		
$ in Millions, Contributions as % of Pay	**Using 6%**	**Using 7%**	**Using 8%**
Normal Cost Rate	13.92%	17.72%	11.19%
Amortization of Unfunded Liability			
Level % of Pay to 2048	0.83%	4.58%	(2.93%)
Expenses, % of Pay	0.19%	0.19%	0.19%
Total Required Contribution, % of Pay	14.94%	22.49%	8.45%
Contribution Sufficiency/(Deficiency), % of Pay	1.71%	(5.84)%	8.20%
Accrued Liability Funding Ratio	96.7%	82.4%	112.2%
Present Value of Projected Benefits (a)	$1,368.7	$1,658.0	$1,150.2
Present Value of Future Normal Costs (b)	$256.3	$352.5	$191.8
Actuarial Accrued Liability (a-b)	$1,112.4	$1,305.5	$958.4
Unfunded Accrued Liability	$36.9	$230.0	($117.1)

Summary of Actuarial Assumptions and Methods

General Employees Plan

The following assumptions were used in valuing the liabilities and benefits under the plan. All actuarial assumptions are prescribed by Minnesota Statutes, the Legislative Commission on Pensions and Retirement (LCPR), or the Board of Trustees. These parties are responsible for selecting the assumptions used for this valuation. Unless noted otherwise, the assumptions prescribed are based on the experience study dated June 27, 2019, and a review of inflation and investment assumptions dated June 29, 2023. This report recommended changes to economic and demographic assumptions, expected to be effective at a future date. The Allowance for Combined Service Annuity assumptions are based on an analysis completed by the LCPR actuary and documented in a report dated October 2016.

Actuarial Cost Method	Entry Age Normal, with costs allocated as a level percentage of payroll. Actuarial gains (losses) reduce (increase) the unfunded actuarial accrued liability. (1960)*
Asset Valuation Method	Fair market value smoothed over five years. (2008)
Investment return	7.00% per annum. (2024)
Benefit increases after retirement	1.25% per annum. (2018)
Salary increases	Reported salary at valuation date increased according to the rate table, to current fiscal year and annually for each future year. Prior fiscal year salary is annualized for members with less than one year of service earned during the year. (2018)
Inflation	2.25% per year. (2020)
Payroll growth	3.00% per year. (2020)
Mortality rates	
Healthy pre-retirement	Pub-2010 General Employee Mortality Table adjusted for mortality improvements using projection scale MP-2021. Rates are multiplied by a factor of 1.07 for males and 0.98 for females.
Healthy post-retirement	Pub-2010 Healthy General Employee Mortality Table adjusted for mortality improvements using projection scale MP-2021. Rates are multiplied by a factor of 1.02 for males and 0.90 for females.
Disabled retirees	Pub-2010 General/Teacher Disabled Retiree Mortality Table adjusted for mortality improvements using projection scale MP-2021. Rates are set forward two years for males and set forward four years for females.
Mortality rate note:	The Pub-2010 employee mortality table as published by the Society of Actuaries (SOA) contains mortality rates for ages 18–80 and the annuitant mortality table contains mortality rates for ages 50–120. We have extended the annuitant mortality table as needed for members younger than age 50 who are receiving a benefit by deriving rates based on the employee table and the juvenile table. Similarly, we have extended the employee table as needed for members older than age 80 by deriving rates based on the annuitant table.
Retirement	Members retiring from active status are assumed to retire according to the age related rates shown in the tables. Members who have attained the highest assumed retirement age are assumed to retire in one year. (2016)
Withdrawal	Service-related rates based on experience; see table of sample rates. (2016)
Disability	Age-related rates based on experience; see table of sample rates. (2016)
Allowance for combined service annuity	Liabilities for former members are increased by 15.0% for vested members and 3.0% for non-vested members to account for the effect that some participants have eligibility for a Combined Service Annuity. (2017)

*Year in parenthesis is the date of adoption.

Summary of Actuarial Assumptions and Methods

General Employees Plan

Administrative expenses	Prior year administrative expenses expressed as percentage of prior year projected payroll. (1989)
Refund of contributions	For non-vested members, account balances accumulate interest until the assumed commencement date and are discounted back to the valuation date. Active members decrementing after becoming eligible for a deferred benefit are are assumed to take the contributions accumulated with interest if larger than the value of the benefit.
Commencement of deferred	Members receiving deferred annuities (including current benefits terminated deferred members) are assumed to begin receiving benefits at Normal Retirement.
Percentage married	80% of male and 70% of female active members are assumed to be married. Actual marital status is used for members in payment status.
Age of spouse	Males are assumed to have a beneficiary three years younger, while females are assumed to have a beneficiary one year older. For members in payment status, actual spouse date of birth is used, if provided.
Eligible children	Retiring members are assumed to have no dependent children.
Form of payment	Married members retiring from active status are assumed to elect subsidized joint and survivor form of annuity as follows: Males: 10% elect 25% Joint & Survivor option 15% elect 50% Joint & Survivor option 10% elect 75% Joint & Survivor option 45% elect 100% Joint & Survivor option Females: 10% elect 25% Joint & Survivor option 10% elect 50% Joint & Survivor option 5% elect 75% Joint & Survivor option 30% elect 100% Joint & Survivor option Remaining married members and unmarried members are assumed to elect the Straight Life option. Members receiving deferred annuities (including current terminated deferred members) are assumed to elect a straight life annuity.
Eligibility testing	Eligibility for benefits is determined based upon the age nearest birthday and service on the date the decrement is assumed to occur.
Decrement operation	Withdrawal decrements do not operate during retirement eligibility. Decrements are assumed to occur mid-fiscal year.
Service credit accruals	It is assumed that members accrue one year of service credit per year.
Pay Increases	Pay increases are assumed to happen at the beginning of the fiscal year. This is equivalent to assuming that reported earnings are pensionable earnings for the year ending on the valuation date.
Changes in actuarial assumptions	The statutory investment return assumption was changed from 7.50% to 7.00%.

Summary of Actuarial Assumptions and Methods

General Employees Plan

	Percentage of Members Dying Each Year*					
	Healthy Post-Retirement Mortality**		Healthy Pre-Retirement Mortality**		Disability Mortality**	
Age	Male	Female	Male	Female	Male	Female
20	0.04%	0.01%	0.04%	0.01%	0.36%	0.18%
25	0.03%	0.01%	0.04%	0.01%	0.31%	0.29%
30	0.05%	0.02%	0.05%	0.02%	0.55%	0.51%
35	0.07%	0.03%	0.08%	0.03%	0.79%	0.81%
40	0.09%	0.04%	0.10%	0.04%	1.04%	1.08%
45	0.12%	0.06%	0.11%	0.05%	1.33%	1.34%
50	0.29%	0.18%	0.15%	0.07%	1.71%	1.54%
55	0.42%	0.25%	0.22%	0.12%	2.17%	1.88%
60	0.64%	0.36%	0.35%	0.19%	2.74%	2.25%
65	0.94%	0.52%	0.50%	0.28%	3.37%	2.57%
70	1.44%	0.83%	0.69%	0.42%	4.01%	3.24%
75	2.41%	1.48%	1.04%	0.69%	5.23%	4.82%
80	4.33%	2.75%	1.65%	1.18%	7.62%	7.75%
85	8.00%	5.24%	7.06%	4.90%	11.51%	11.96%
90	13.96%	9.84%	14.65%	10.72%	17.85%	17.09%

*Generally, mortality rates are expected to increase as age increases. These standard mortality rates have been adjusted slightly to prevent decreasing mortality rates. If the rates were not adjusted as described, we would not expect the valuation results to be materially different.

**Rates are adjusted for mortality improvements using Scale MP-2021, from a base year of 2010.

	Disability Retirement	
Age	Male	Female
20	0.01%	0.01%
25	0.01%	0.01%
30	0.01%	0.01%
35	0.02%	0.02%
40	0.04%	0.04%
45	0.06%	0.05%
50	0.11%	0.10%
55	0.26%	0.14%
60	0.53%	0.21%
65	0.00%	0.00%
70	0.00%	0.00%

Summary of Actuarial Assumptions and Methods

General Employees Plan

	Salary Scale	% Withdrawals	
Year	Increase	Male	Female
1	10.25%	21.50%	21.50%
2	7.25%	16.25%	17.25%
3	6.00%	11.00%	13.00%
4	5.50%	9.00%	11.00%
5	5.00%	8.00%	9.00%
6	4.70%	7.00%	8.50%
7	4.50%	6.25%	8.00%
8	4.40%	5.50%	7.50%
9	4.30%	5.00%	7.00%
10	4.20%	4.50%	6.00%
11	4.00%	4.25%	5.50%
12	3.90%	4.00%	5.25%
13	3.80%	3.75%	5.00%
14	3.70%	3.50%	4.75%
15	3.65%	3.00%	4.25%
16	3.60%	2.75%	3.75%
17	3.50%	2.50%	3.50%
18	3.40%	2.25%	3.00%
19	3.40%	2.00%	2.80%
20	3.40%	1.90%	2.70%
21	3.30%	1.85%	2.60%
22	3.30%	1.80%	2.50%
23	3.30%	1.75%	2.40%
24	3.20%	1.70%	2.30%
25	3.20%	1.65%	2.20%
26	3.10%	1.60%	2.10%
27	3.00%	1.55%	2.00%
28	3.00%	1.50%	1.50%
29	3.00%	1.00%	1.50%
30+	3.00%	1.00%	1.50%

Police & Fire Plan

The following assumptions were used in valuing the liabilities and benefits under the plan. All actuarial assumptions are prescribed by Minnesota Statutes, the Legislative Commission on Pensions and Retirement (LCPR), or the Board of Trustees. These parties are responsible for selecting the assumptions used for this valuation. Unless noted otherwise, the assumptions prescribed are based on the experience study dated July 14, 2020, and a review of inflation and investment assumptions in the General Employees Retirement Plan Experience Study dated June 29, 2023. The Allowance for Combined Service Annuity assumptions are based on an analysis completed by the LCPR actuary and documented in a report dated October 2016.

Summary of Actuarial Assumptions and Methods

Actuarial Cost Method	Entry Age Normal, with costs allocated as a level percentage of payroll. Actuarial gains (losses) reduce (increase) the unfunded actuarial accrued liability. (1960)*
Asset Valuation Method	Fair market value smoothed over five years. (2008)
Investment return	7.00% per annum. (2024)
Benefit increases after retirement	1.00% for all years, no trigger. (2018)
Salary increases	Reported salary at valuation date increased according to the rate table, to current fiscal year and annually for each future year. Prior fiscal year salary is annualized for members with less than one year of service earned during the year. (2018)
Inflation	2.25% per year. (2021)
Payroll growth	3.00% per year. (2021)
Mortality rates	
Healthy pre-retirement	Pub-2010 Public Safety Employee Mortality Table adjusted for mortality improvements using projection scale MP-2021
Healthy post-retirement	Pub-2010 Healthy Retired Public Safety Mortality Table adjusted for mortality improvements using projection scale MP-2021. Male rates are multiplied by a factor of 0.98.
Disabled retirees	Pub-2010 Public Safety Disabled Retiree Mortality Table, adjusted for mortality improvements using projection scale MP-2021. Males rates are multiplied by a factor of 1.05.
Mortality rate note:	The Pub-2010 employee mortality table as published by the Society of Actuaries (SOA) contains mortality rates for ages 18–80 and the annuitant mortality table contains mortality rates for age 50–120. We have extended the annuitant mortality table as needed for members and beneficiaries younger than age 50 who are receiving a benefit by deriving rates based on the employee table and the juvenile table. Similarly, we have extended the employee table as needed for members older than age 80 by deriving rates based on the annuitant table.
Retirement	Members retiring from active status are assumed to retire according to the age related rates shown in the rate table. Members who have attained the highest assumed retirement age are assumed to retire in one year. Note that significant plan changes reflected in this report may result in behavior changes that are not anticipated in the current retirement rates. (2016)
Withdrawal	Service related rates based on actual experience; see table of sample rates. (2021)
Disability	Age-related rates based on experience; see table of sample rates. All incidences are assumed to be duty-related. (2021)
Allowance for combined service annuity	Liabilities for former members are increased by 33.0% for vested members and 2.0% for non-vested members to account for the effect of some participants having eligibility for a Combined Service Annuity. (2017)
Administrative expenses	Prior year administrative expenses expressed as percentage of prior year projected payroll. (1989)

*Year in parenthesis is the date of adoption.

Summary of Actuarial Assumptions and Methods

Refund of contributions	For non-vested members, account balances accumulate interest until the assumed commencement date and are discounted back to the valuation date. Active members decrementing after becoming eligible for a benefit are assumed to take the contributions accumulated with interest if larger than the value of the benefit.
Commencement of deferred benefits	Members receiving deferred annuities (including current terminated deferred members) are assumed to begin receiving benefits at age 55.
Percentage married	85% of male and 70% of female active members are assumed to be married. Actual marital status is used for members in payment status.
Age of spouse	Males are assumed to be two years older than females. For members in payment status, actual spouse date of birth is used, if provided.
Eligible children	Retiring members are assumed to have no dependent children.
Form of payment	Married members retiring from active status are assumed to elect subsidized joint and survivor form of annuity as follows: Males: 7.5% elect 25% Joint & Survivor option 15% elect 50% Joint & Survivor option 12.5% elect 75% Joint & Survivor option 55% elect 100% Joint & Survivor option Females: 15% elect 25% Joint & Survivor option 30% elect 50% Joint & Survivor option 5% elect 75% Joint & Survivor option 20% elect 100% Joint & Survivor option Remaining married members and unmarried members are assumed to elect the Straight Life option. Members receiving deferred annuities (including current terminated deferred members) are assumed to elect a straight life annuity.
Eligibility testing	Eligibility for benefits is determined based upon the age nearest birthday and service on the date the decrement is assumed to occur.
Decrement operation	Withdrawal decrements do not operate during retirement eligibility. Decrements are assumed to occur mid-fiscal year.
Service credit accruals	It is assumed that members accrue one year of service credit per year.
Pay Increases	Pay increases are assumed to happen at the beginning of the fiscal year. This is equivalent to assuming that reported earnings are pensionable earnings for the year ending on the valuation date.
Changes in actuarial assumptions	The statutory investment return assumption was changed from 7.50% to 7.00%.

Summary of Actuarial Assumptions and Methods

Police & Fire Plan

	Percentage of Members Dying Each Year*					
	Healthy Post-Retirement Mortality**		Healthy Pre-Retirement Mortality**		Disability Mortality**	
Age	Male	Female	Male	Female	Male	Female
20	0.04%	0.02%	0.04%	0.02%	0.13%	0.06%
25	0.04%	0.02%	0.04%	0.02%	0.13%	0.08%
30	0.06%	0.04%	0.06%	0.04%	0.18%	0.12%
35	0.07%	0.05%	0.07%	0.05%	0.22%	0.17%
40	0.09%	0.06%	0.08%	0.06%	0.25%	0.20%
45	0.13%	0.08%	0.09%	0.07%	0.28%	0.22%
50	0.18%	0.14%	0.11%	0.08%	0.35%	0.28%
55	0.29%	0.25%	0.17%	0.12%	0.48%	0.45%
60	0.51%	0.46%	0.27%	0.17%	0.79%	0.72%
65	0.87%	0.73%	0.41%	0.22%	1.25%	1.01%
70	1.42%	1.16%	0.71%	0.40%	1.85%	1.40%
75	2.45%	2.00%	1.27%	0.79%	3.01%	2.13%
80	4.45%	3.60%	2.38%	1.63%	5.23%	3.60%
85	8.17%	6.42%	7.47%	5.62%	8.83%	6.42%
90	14.50%	11.25%	14.80%	11.25%	15.54%	11.25%

*Generally, mortality rates are expected to increase as age increases. These standard mortality rates have been adjusted slightly to prevent decreasing mortality rates. If the rates were not adjusted as described, we would not expect the valuation results to be materially different.

**Rates are adjusted for mortality improvements using Scale MP-2021, from a base year of 2010.

Summary of Actuarial Assumptions and Methods

Years of Service	Vesting Percent if Hired: Before 7/1/10	After 6/30/10 & Before 7/1/14	After 6/30/14
5	100.00%	50.00%	0.00%
6	100.00%	60.00%	0.00%
7	100.00%	70.00%	0.00%
8	100.00%	80.00%	0.00%
9	100.00%	90.00%	0.00%
10	100.00%	100.00%	50.00%
11	100.00%	100.00%	55.00%
12	100.00%	100.00%	60.00%
13	100.00%	100.00%	65.00%
14	100.00%	100.00%	70.00%
15	100.00%	100.00%	75.00%
16	100.00%	100.00%	80.00%
17	100.00%	100.00%	85.00%
18	100.00%	100.00%	90.00%
19	100.00%	100.00%	95.00%
20+	100.00%	100.00%	100.00%

Age	Disability Retirement: Male	Female
20	0.11%	0.11%
25	0.14%	0.14%
30	0.21%	0.21%
35	0.34%	0.34%
40	0.54%	0.54%
45	0.62%	0.62%
50	0.95%	0.95%
55	1.30%	1.30%
60	1.30%	1.30%

Summary of Actuarial Assumptions and Methods

Police & Fire Plan

	Rates of Service		Withdrawal		Salary Scale
Age	Retirement	Year	Rates	Year	Increase
50	7.50%	1	6.00%	1	11.75%
51	5.00%	2	4.00%	2	9.25%
52	5.00%	3	2.75%	3	8.00%
53	7.50%	4	2.50%	4	7.00%
54	10.00%	5	2.50%	5	5.50%
55	30.00%	6	2.25%	6	4.80%
56	20.00%	7	2.25%	7	4.60%
57	22.50%	8	2.00%	8	4.30%
58	25.00%	9	2.00%	9	4.10%
59	25.00%	10	2.00%	10	4.00%
60	20.00%	11	1.75%	11	3.90%
61	25.00%	12	1.50%	12	3.80%
62	30.00%	13	1.50%	13	3.70%
63	27.50%	14	1.50%	14	3.60%
64	27.50%	15	1.50%	15	3.50%
65	50.00%	16	1.50%	16	3.50%
66	40.00%	17	1.50%	17	3.50%
67	50.00%	18	1.25%	18	3.50%
68	50.00%	19	1.25%	19	3.40%
69	50.00%	20	1.25%	20	3.40%
70+	100.00%	21+	1.00%	21	3.40%
				22	3.30%
				23	3.15%
				24+	3.00%

Summary of Actuarial Assumptions and Methods

Correctional Plan

The following assumptions were used in valuing the liabilities and benefits under the plan. All actuarial assumptions are prescribed by Minnesota Statutes, the Legislative Commission on Pensions and Retirement (LCPR), or the Board of Trustees. These parties are responsible for selecting the assumptions used for this valuation. Unless noted otherwise, the assumptions prescribed are based on the experience study dated July 10, 2020, and a review of inflation and investment assumptions in the General Employees Retirement Plan Experience Study dated June 29, 2023. The Allowance for Combined Service Annuity assumptions are based on an analysis completed by the LCPR actuary and documented in a report dated October 2016.

Actuarial Cost Method	Entry Age Normal, with costs allocated as a level percentage of payroll. Actuarial gains (losses) reduce (increase) the unfunded actuarial accrued liability. (1999)*
Asset Valuation Method	Fair market value smoothed over five years. (2008)
Investment return	7.00% per annum. (2024)
Benefit increases after retirement	2.00% per annum. (2018)
Salary increases	Reported salary at valuation date increased according to the rate table, to current fiscal year and annually for each future year. Prior fiscal year salary is annualized for members with less than one year of service earned during the year. (2018)
Inflation	2.25% per year. (2021)
Payroll growth	3.00% per year. (2021)
Mortality rates	
Healthy Pre-retirement	Pub-2010 Public Safety Mortality Table adjusted for mortality improvements using projection scale MP-2021.
Healthy Post-retirement	Pub-2010 Healthy Retired Public Safety Mortality Table adjusted for mortality improvements using projections scale MP-2021. Male rates are adjusted by a factor of 0.98.
Disabled retirees	Pub-2010 Public Safety Disabled Retiree Mortality Table adjusted for mortality improvements using projection scale MP-2021. Male rates are adjusted by a factor of 1.05.
Mortality rate note:	The Pub-2010 employee mortality table as published by the Society of Actuaries (SOA) contains mortality rates for ages 18–80 and the annuitant mortality table contains mortality rates for ages 50–120. We have extended the annuitant mortality table as needed for members and beneficiaries younger than 50 who are receiving a benefit by deriving rates based on the employee table and the juvenile table. Similarly, we have extended the employee table as needed for members older that age 80 by deriving rates based on the annuitant table.
Retirement	Members retiring from active status are assumed to retire according to the age related rates shown in the rate table. Members who have attained the highest assumed retirement age are assume to retire in one year. Note that significant plan changes reflected in this report may result in behavior changes that are not anticipated in the current retirement rates. (2016)
Withdrawal	Select and Ultimate rates based on actual experience. Ultimate rates after the third year are shown in rate table. Select rates in the first three years are: Year — Select Withdrawal Rates 1 — 27% 2 — 23% 3 — 17%
Disability	Age-related rates based on experience; see table of sample rates. All incidences are assumed to be duty-related.

*Year in parenthesis is the date of adoption.

Summary of Actuarial Assumptions and Methods

Correctional Plan`

Allowance for combined service annuity	Liabilities for former members are increased by 35.0% for vested members and 1.0% for non-vested members to account for the effect of some participants having eligibility for a Combined Service Annuity. (2017)
Administrative expenses	Prior year administrative expenses expressed as percentage of prior year projected payroll. (1989)
Refund of contributions	For non-vested members, account balances accumulate interest until the assumed commencement date and are discounted back to the valuation date. Active members decrementing after becoming eligible for a benefit are assumed to take the contributions accumulated with interest if larger than the value of the benefit.
Commencement of deferred benefits	Members receiving deferred annuities (including current terminated deferred members) are assumed to begin receiving benefits at age 55.
Percentage married	75% of active members are assumed to be married. Actual marital status is used for members in payment status.
Age of spouse	Females are assumed to be three years younger than their male spouses. For members in payment status, actual spouse date of birth is used, if provided.
Eligible children	Retiring members are assumed to have no dependent children.
Form of payment	Married members retiring from active status are assumed to elect subsidized joint and survivor form of annuity as follows: Males: 10% elect 25% Joint & Survivor option 15% elect 50% Joint & Survivor option 5% elect 75% Joint & Survivor option 50% elect 100% Joint & Survivor option Females: 10% elect 25% Joint & Survivor option 10% elect 50% Joint & Survivor option 5% elect 75% Joint & Survivor option 25% elect 100% Joint & Survivor option Remaining married members and unmarried members are assumed to elect the Straight Life option. Members receiving deferred annuities (including current terminated deferred members) are assumed to elect a straight life annuity.
Eligibility testing	Eligibility for benefits is determined based upon the age nearest birthday and service on the date the decrement is assumed to occur.
Decrement operation	Withdrawal decrements do not operate during retirement eligibility. Decrements are assumed to occur mid-fiscal year.
Service credit accruals	It is assumed that members accrue one year of service credit per year.
Pay Increases	Pay increases are assumed to happen at the beginning of the fiscal year. This is equivalent to assuming that reported earnings are pensionable earnings for the year ending on the valuation date.
Changes in actuarial assumptions	The statutory investment return assumption was changed from 7.50% to 7.00%.

Summary of Actuarial Assumptions and Methods

Correctional Plan

	Percentage of Members Dying Each Year*					
	Healthy Post-Retirement Mortality**		Healthy Pre-Retirement Mortality**		Disability** Mortality	
Age	Male	Female	Male	Female	Male	Female
20	0.04%	0.02%	0.04%	0.02%	0.13%	0.06%
25	0.04%	0.02%	0.04%	0.02%	0.13%	0.08%
30	0.06%	0.04%	0.06%	0.04%	0.18%	0.12%
35	0.07%	0.05%	0.07%	0.05%	0.22%	0.17%
40	0.09%	0.06%	0.08%	0.06%	0.25%	0.20%
45	0.13%	0.08%	0.09%	0.07%	0.28%	0.22%
50	0.18%	0.14%	0.11%	0.08%	0.35%	0.28%
55	0.29%	0.26%	0.17%	0.12%	0.48%	0.45%
60	0.51%	0.46%	0.27%	0.17%	0.79%	0.72%
65	0.87%	0.73%	0.41%	0.22%	1.25%	1.01%
70	1.42%	1.16%	0.71%	0.40%	1.85%	1.40%
75	2.45%	2.00%	1.27%	0.79%	3.01%	2.13%
80	4.45%	3.60%	2.38%	1.63%	5.23%	3.60%
85	8.17%	6.42%	7.47%	5.62%	8.83%	6.42%
90	14.50%	11.25%	14.80%	11.25%	15.54%	11.25%

*Generally, mortality rates are expected to increase as age increases. These standard mortality rates have been adjusted slightly to prevent decreasing mortality rates. If the rates were not adjusted as described, we would not expect the valuation results to be materially different.

**Rates are adjusted for mortality improvement using Scale MP-2021, form a base year of 2010.

	Withdrawal Rates		Disability Retirement	
Age	Male	Female	Male	Female
20	17.00%	17.00%	0.04%	0.04%
25	17.00%	17.00%	0.06%	0.06%
30	11.00%	13.00%	0.10%	0.08%
35	7.50%	9.00%	0.18%	0.17%
40	5.50%	6.50%	0.21%	0.18%
45	3.50%	4.75%	0.31%	0.39%
50	3.00%	3.00%	0.55%	0.70%
55	0.00%	0.00%	0.78%	0.93%
60	0.00%	0.00%	0.92%	1.30%
65	0.00%	0.00%	1.00%	1.30%

Summary of Actuarial Assumptions and Methods

Correctional Plan

Age	Rates of Service Retirement
50	5.00%
51	5.00%
52	5.00%
53	5.00%
54	7.00%
55	15.00%
56	10.00%
57	11.00%
58	11.00%
59	11.00%
60	15.00%
61	15.00%
62	25.00%
63	25.00%
64	30.00%
65	40.00%
66	50.00%
67	40.00%
68	30.00%
69	40.00%
70+	100.00%

Salary Scale	
Age	Increase
20	11.00%
25	7.75%
30	6.00%
35	5.50%
40	4.75%
45	4.00%
50	3.75%
55	3.50%
60	3.00%
65	3.00%
70+	3.00%

Schedule of Funding Progress

Last 10 Years (in thousands, unaudited)

General Employees Plan

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL)-Entry Age (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll [(b-a)/c]
06/30/2023	$27,665,822	$33,092,665	$5,426,843	83.60%	$7,493,954	72.4%
06/30/2022	$26,397,045	$30,189,649	$3,792,604	87.44%	$7,042,154	53.9%
06/30/2021	$24,909,060	$29,215,560	$4,306,500	85.26%	$6,761,354	63.7%
06/30/2020	$22,792,333	$28,626,916	$5,834,583	79.62%	$6,698,754	87.1%
06/30/2019	$21,979,022	$27,969,744	$5,990,722	78.58%	$6,523,754	91.8%
06/30/2018	$21,129,746	$27,101,067	$5,971,321	77.97%	$6,298,815	94.8%
06/30/2017	$19,916,322	$25,615,722	$5,699,400	77.75%	$6,156,985	92.6%
06/30/2016	$18,765,863	$24,848,409	$6,082,546	75.52%	$5,773,708	105.3%
06/30/2015	$17,974,439	$23,560,951	$5,586,512	76.29%	$5,549,255	100.7%
06/30/2014	$15,644,540	$21,282,504	$5,637,964	73.51%	$5,351,920	105.3%

Police & Fire Plan

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL)-Entry Age (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll [(b-a)/c]
06/30/2023	$11,105,741	$12,765,798	[illegible]7	87.00%	$1,224,322	135.6%
06/30/2022	$10,563,877	$11,351,467	$787,590	93.06%	$1,127,314	69.9%
06/30/2021	$9,931,003	$10,793,845	$862,842	92.01%	$1,096,195	78.7%
06/30/2020	$9,036,069	$10,291,567	$1,255,498	87.80%	$1,069,481	117.4%
06/30/2019	$8,661,613	$9,909,153	$1,247,540	87.41%	$1,011,421	123.3%
06/30/2018	$8,320,094	$9,552,804	$1,232,710	87.10%	$976,657	126.2%
06/30/2017	$7,840,549	$9,199,208	$1,358,659	85.23%	$944,296	143.9%
06/30/2016	$7,385,777	$8,417,621	$1,031,844	87.74%	$881,222	117.1%
06/30/2015	$7,076,271	$8,460,477	$1,384,206	83.64%	$845,076	163.8%
06/30/2014	$6,525,019	$8,151,328	$1,626,309	80.05%	$820,333	198.2%

Schedule of Funding Progress

Correctional Plan

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL)-Entry Age (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll [(b-a)/c]
6/30/2023	$1,075,475	$1,112,405	$36,930	96.68%	$238,319	15.5%
6/30/2022	$992,811	$944,741	($48,070)	105.09%	$220,292	(21.8%)
6/30/2021	$904,434	$870,567	($33,867)	103.89%	$222,093	(15.2)%
6/30/2020	$794,221	$814,456	$20,235	97.52%	$217,702	9.3%
6/30/2019	$729,570	$758,268	$28,698	96.22%	$214,151	13.4%
6/30/2018	$666,012	$696,842	$30,830	95.58%	$205,077	15.0%
6/30/2017	$595,366	$629,870	$34,504	94.52%	$200,103	17.2%
6/30/2016	$529,879	$553,840	$23,961	95.67%	$188,816	12.7%
6/30/2015	$475,963	$498,052	$22,089	95.56%	$179,623	12.3%
6/30/2014	$410,489	$426,508	$16,019	96.24%	$172,041	9.3%

Solvency Test

Last 10 Years (in thousands, unaudited)

General Employees Plan

Valuation Date	Actuarial Accrued Liability For: Active Member Contribution (1)	Current Retirees and Beneficiaries (2)	Active Members (Employer Financed) Portion (3)	Valuation Assets	Portion of Accrued Liabilities Covered by Valuation Assets: 1	2	3
6/30/2023	$3,748,106	$21,651,247	$7,693,312	$27,665,822	100%	100%	29.5%
6/30/2022	$3,614,311	$20,019,859	$6,555,479	$26,397,045	100%	100%	42.1%
6/30/2021	$3,567,480	$19,086,577	$6,561,503	$24,909,060	100%	100%	34.4%
6/30/2020	$3,471,543	$18,409,104	$6,746,269	$22,792,333	100%	100%	13.5%
6/30/2019	$3,346,315	$17,944,118	$6,679,311	$21,979,022	100%	100%	10.3%
6/30/2018	$3,239,795	$17,185,254	$6,676,018	$21,129,746	100%	100%	10.6%
6/30/2017	$3,148,413	$15,800,416	$6,666,893	$19,916,322	100%	100%	14.5%
6/30/2016	$3,018,468	$15,706,371	$6,123,570	$18,765,863	100%	100%	0.7%
6/30/2015	$2,915,621	$14,666,626	$5,978,704	$17,974,439	100%	100%	6.6%
6/30/2014	$2,827,447	$12,614,999	$5,840,058	$15,644,540	100%	100%	3.5%

Police & Fire Plan

Valuation Date	Actuarial Accrued Liability For: Active Member Contribution (1)	Retirees and Beneficiaries (2)	Active Members (Employer Financed) Portion (3)	Valuation Assets	Portion of Accrued Liabilities Covered by Valuation Assets: 1	2	3
06/30/23	$1,068,742	$8,362,512	$3,334,544	$11,105,741	100%	100%	50.2%
06/30/22	$1,034,615	$7,453,436	$2,863,416	$10,563,877	100%	100%	72.5%
06/30/21	$1,007,796	$6,980,151	$2,805,898	$9,931.003	100%	100%	69.2%
06/30/20	$990,616	$6,448,667	$2,852,284	$9,036.069	100%	100%	56.0%
06/30/19	$923,025	$6,271,401	$2,714,727	$8,661.613	100%	100%	54.0%
06/30/18	$877,470	$6,021,677	$2,653,657	$8,320.094	100%	100%	53.5%
06/30/17	$821,166	$5,744,606	$2,633,436	$7,840.549	100%	100%	48.4%
06/30/16	$769,533	$5,279,381	$2,368,707	$7,385.777	100%	100%	56.4%
06/30/15	$715,501	$5,310,721	$2,434,255	$7,076.271	100%	100%	43.1%
06/30/14	$662,732	$5,190,447	$2,298,149	$6,525.019	100%	100%	29.2%

Correctional Plan

Valuation Date	Actuarial Accrued Liability For: Active Member Contribution (1)	Current Retirees and Beneficiaries (2)	Active Members (Employer Financed) Portion (3)	Valuation Assets	Portion of Accrued Liabilities Covered by Valuation Assets: 1	2	3
06/30/23	$91,669	$663,255	$357,481	$1,075,475	100%	100%	89.7%
06/30/22	$88,795	$559,998	$295,948	$992,811	100%	100%	116.2%
06/30/21	$94,212	$473,124	$303,231	$904,434	100%	100%	111.2%
06/30/20	$91,782	$416,648	$306,026	$794,221	100%	100%	93.4%
06/30/19	$89,874	$369,015	$299,379	$729,570	100%	100%	90.4%
06/30/18	$86,410	$326,339	$284,093	$666,012	100%	100%	89.1%
06/30/17	$84,107	$280,963	$264,800	$595,366	100%	100%	87.0%
06/30/16	$81,675	$228,642	$243,523	$526,879	100%	100%	88.9%
06/30/15	$77,771	$194,694	$225,587	$475,963	100%	100%	90.2%
06/30/14	$75,492	$154,273	$196,743	$410,489	100%	100%	91.9%

Schedule of Active Members Valuation Data

Last 10 Years

General Employees Plan

Valuation Date	Number	Valuation Payroll	Annual Average Pay	% Increase in Average Pay
06/30/23	154,261	$7,493,954,000	$48,580	3.5%
06/30/22	149,987	$7,042,154,000	$46,952	3.7%
06/30/21	149,281	$6,761,354,000	$45,293	4.0%
06/30/20	153,741	$6,698,754,000	$43,572	2.9%
06/30/19	154,130	$6,523,754,000	$42,326	2.9%
06/30/18	153,059	$6,298,815,000	$41,153	2.2%
06/30/17	152,867	$6,156,985,000	$40,277	3.8%
06/30/16	148,745	$5,773,708,000	$38,816	1.9%
06/30/15	145,650	$5,549,255,000	$38,100	2.0%
06/30/14	143,343	$5,351,920,000	$37,336	(0.5%)

Police & Fire Plan

Valuation Date	Number	Valuation Payroll	Annual Average Pay	% Increase in Average Pay
06/30/23	11,635	$1,151,376,000	$98,958	2.1%
06/30/22	11,629	$1,127,314,000	$96,940	3.5%
06/30/21	11,705	$1,096,195,000	$93,652	5.3%
06/30/20	12,025	$1,069,481,000	$88,938	3.4%
06/30/19	11,763	$1,011,421,000	$85,983	2.8%
06/30/18	11,673	$976,657,000	$83,668	2.1%
06/30/17	11,522	$944,296,000	$81,956	6.0%
06/30/16	11,398	$881,222,000	$77,314	2.1%
06/30/15	11,157	$845,076,000	$75,744	0.4%
06/30/14	10,879	$820,333,000	$75,405	3.6%

Correctional Plan

Valuation Date	Number	Valuation Payroll	Annual Average Pay	% Increase in Average Pay
06/30/23	3,786	$238,319,000	$62,947	1.8%
06/30/22	3,564	$220,292,000	$61,810	5.4%
06/30/21	3,788	$222,093,000	$58,631	3.8%
06/30/20	3,855	$217,702,000	$56,473	4.6%
06/30/19	3,965	$214,151,000	$54,010	4.8%
06/30/18	3,981	$205,077,000	$51,514	(1.1%)
06/30/17	3,842	$200,103,000	$52,083	5.6%
06/30/16	3,827	$188,816,000	$49,338	1.4%
06/30/15	3,692	$179,623,000	$48,652	1.9%
06/30/14	3,603	$172,041,000	$47,749	1.2%

For a summary of changes in the nature of the plan, actuarial methods and assumptions used, and the year change occurred, refer to the Summary of Actuarial Assumptions and Methods on pages113–127.

Schedule of Retirees and Beneficiaries

Last 10 Years

General Employees Plan

Valuation Date	Added to Rolls: Number Added	Added to Rolls: Annual Allowances	Removed from Rolls: Number Removed	Removed from Rolls: Annual Allowances	Year-End Total: Number	Year-End Total: Annual Allowances	% Change in Annual Allowances	Average Annual Allowances
06/30/23	7,068	$135,971,142	3,968	$70,549,092	119,080	$1,826,365,706	3.7%	$15,337
06/30/22	7,663	$139,178,027	3,915	$65,283,792	115,980	$1,760,943,656	4.4%	$15,183
06/30/21	7,572	$126,930,158	3,832	$63,936,168	112,232	$1,687,049,421	3.9%	$15,032
06/30/20	6,837	$118,695,452	3,588	$57,858,288	108,492	$1,624,055,431	3.9%	$14,969
06/30/19	6,842	$122,035,019	3,371	$57,475,656	105,243	$1,563,218,267	4.3%	$14,853
06/30/18	6,878	$114,687,040	3,307	$55,454,136	101,772	$1,498,658,904	4.1%	$14,726
06/30/17	7,132	$117,947,000	3,219	$53,791,000	98,201	$1,439,426,000	4.7%	$14,658
06/30/16	6,783	$110,107,000	3,087	$52,933,000	94,288	$1,375,270,000	4.3%	$14,586
06/30/15*	10,537	$241,065,000	3,079	$54,630,000	90,592	$1,318,096,000	16.5%	$14,550
06/30/14	6,700	$104,862,000	2,649	$40,605,000	83,134	$1,131,661,000	6.0%	$13,612

*MERF merged with the General Employees Plan effective January 1, 2015.

Police & Fire Plan

Valuation Date	Added to Rolls: Number Added	Added to Rolls: Annual Allowances	Removed from Rolls: Number Removed	Removed from Rolls: Annual Allowances	Year-End Total: Number	Year-End Total: Annual Allowances	% Change in Annual Allowances	Average Annual Allowances
06/30/23	793	$51,198,848	299	$13,109,568	12,601	$682,527,258	5.9%	$54,165
06/30/22	851	$54,242,164	400	$19,306,740	12,107	$644,437,978	5.7%	$53,229
06/30/21	809	$53,357,862	354	$16,938,648	11,656	$609,502,554	6.4%	$52,291
06/30/20	549	$32,891,144	379	$18,134,352	11,201	$573,083,340	2.6%	$51,164
06/30/19	606	$37,676,147	331	$15,535,284	11,031	$558,326,548	4.1%	$50,614
06/30/18	474	$28,399,145	297	$13,622,460	10,756	$536,185,685	2.8%	$49,850
06/30/17	517	$31,389,000	290	$12,513,000	10,579	$521,409,000	3.8%	$49,287
06/30/16	447	$25,711,000	304	$13,615,000	10,352	$502,533,000	2.5%	$48,545
06/30/15	431	$31,109,000	261	$11,409,000	10,209	$490,437,000	4.2%	$48,040
06/30/14	736	$43,581,000	276	$11,214,000	10,039	$470,737,000	7.4%	$46,891

Correctional Plan

Valuation Date	Added to Rolls: Number Added	Added to Rolls: Annual Allowances	Removed from Rolls: Number Removed	Removed from Rolls: Annual Allowances	Year-End Total: Number	Year-End Total: Annual Allowances	% Change in Annual Allowances	Average Annual Allowances
06/30/23	165	$3,885,433	39	$663,972	1,843	$28,181,848	12.9%	$15,291
06/30/22	184	$4,247,686	39	$605,820	1,717	$24,960,387	17.1%	$14,537
06/30/21	162	$3,630,746	33	$384,756	1,572	$21,318,521	18.0%	$13,561
06/30/20	150	$1,932,914	25	$281,436	1,443	$18,072,531	10.1%	$12,524
06/30/19	137	$2,395,199	12	$162,096	1,318	$16,421,053	15.7%	$12,459
06/30/18	134	$2,471,430	26	$318,480	1,193	$14,187,950	17.9%	$11,893
06/30/17	142	$2,365,000	24	$329,000	1,085	$12,035,000	20.4%	$11,092
06/30/16	118	$1,645,000	15	$146,000	967	$9,999,000	17.6%	$10,340
06/30/15	121	$1,722,000	26	$336,000	864	$8,500,000	19.5%	$9,838
06/30/14	96	$1,131,000	17	$274,000	769	$7,114,000	13.7%	$9,251

Determination of Contribution Sufficiency

As of June 30, 2023 (in thousands)

	General Employees Plan		Police & Fire Plan		Correctional Plan	
	Percent of Payroll	Dollar Amount	Percent of Payroll	Dollar Amount	Percent of Payroll	Dollar Amount
A. Statutory Contributions: MS Chapter 353						
1. Employee Contributions	6.50 %	$497,911	11.80 %	$142,207	5.83 %	$14,807
2. Employer Contributions	7.50 %	574,513	17.70 %	213,311	8.75 %	22,223
3. Employer Supplemental	0.27 %	21,000	0.00 %	0	0.00%	0
Contributions	0.00%	0	0.37 %	4,490	0.00%	0
5. Minneapolis Fire	0.00%	0	0.26 %	3,189	0.00%	0
6. State of Minnesota	0.21 %	16,000	1.49 %	18,000	0.00%	0
7. One-time state aid	2.22 %	$170,093	1.61 %	$19,397	2.07 %	$5,256
8. Total	16.70 %	$1,279,517	33.23 %	$400,594	16.65 %	$42,286
B. Actuarially Determined Contributions: MS Chapter 356						
1. Normal Cost						
a. Retirement Benefits	6.21 %	$475,679	16.40 %	$197,644	8.32 %	$21,131
b. Disability Benefits	0.22 %	16,855	4.41 %	53,147	2.30 %	5,842
c. Survivor Benefits	0.10 %	7,661	0.59 %	7,110	0.11 %	279
d. Deferred Benefits	1.64 %	125,630	1.70 %	20,487	2.51 %	6,375
e. Refunds	0.35 %	26,812	0.16 %	1,928	0.68 %	1,727
f. Total	8.52 %	652,637	23.26 %	280,316	13.92 %	35,354
2. Amortization of Supplemental Contribution UAAL	4.47 %	342,403	8.50 %	102,437	0.83 %	2,108
3. Allowance for Administrative Expenses	0.20 %	15,320	0.11 %	1,326	0.19 %	483
4. Total	13.19 %	$1,010,360	31.87 %	$384,079	14.94 %	$37,945
C. Contribution Sufficiency/ (Deficiency) (A.7–B.4)	3.51%	$269,157	1.36%	$16,515	1.71%	$4,341
Projected annual payroll for fiscal year beginning July 1, 2023		$7,660,024		$1,205,147		$253,980
*The required contribution on a market value of assets basis of payroll is	13.33%		32.21%		15.12%	

Determination of Actuarial Value of Assets

As of June 30, 2023 (in thousands)

General Employees Plan

	Original Amount	% Not Recognized	Unrecognized Return	
Fair value of assets available for benefits (a)				**$27,500,777**
Calculation of unrecognized return				
Year ended June 30, 2023	$350,223	80%	$280,178	
Year ended June 30, 2022	($3,863,099)	60%	($2,317,859)	
Year ended June 30, 2021	$5,043,720	40%	$2,017,488	
Year ended June 30, 2020	($724,261)	20%	($144,852)	
Year ended June 30, 2019	($44,547)		$—	
Total unrecognized return (b)				**(165,045)**
Actuarial Value of Assets (a-b)				**$27,665,822**

Police & Fire Plan

	Original Amount	% Not Recognized	Unrecognized Return	
Fair value of assets available for benefits (a)				**$11,038,928**
Calculation of unrecognized return				
Year ended June 30, 2023	$142,198	80%	$113,758	
Year ended June 30, 2022	($1,545,237)	60%	($927,142)	
Year ended June 30, 2021	$2,009,123	40%	$803,649	
Year ended June 30, 2020	($285,391)	20%	($57,078)	
Year ended June 30, 2019	($17,561)		$—	
Total unrecognized return (b)				**(66,813)**
Actuarial Value of Assets (a-b)				**$11,105,741**

Correctional Plan

	Original Amount	% Not Recognized	Unrecognized Return	
Fair value of assets available for benefits (a)				**$1,067,200**
Calculation of unrecognized return				
Year ended June 30, 2023	$14,076	80%	$11,261	
Year ended June 30, 2022	($143,904)	60%	($86,342)	
Year ended June 30, 2021	$179,252	40%	$71,701	
Year ended June 30, 2020	($24,475)	20%	($4,895)	
Year ended June 30, 2019	($671)		$—	
Total unrecognized return (b)				**(8,275)**
Actuarial Value of Assets (a-b)				**$1,075,475**

Schedule of Changes in Unfunded Actuarial Accrued Liabilities (UAAL)

For the Fiscal Year Ended June 30, 2023 (in thousands)

	General Employees Plan	Police & Fire Plan	Correctional Plan
A.UAAL at Beginning of Year (7/1/22)	**$3,792,604**	**$787,590**	**$(48,070)**
B.Change Due to Interest Requirements and Current Rate of Funding			
1. Normal Cost and Expenses	566,131	231,737	28,989
2. Contributions	(1,084,151)	(385,775)	(34,412)
3. Interest on A, B1, and B2	265,020	53,293	(3,809)
C.Expected UAAL at End of Year (A+B)	**3,539,604**	**686,845**	**(57,302)**
D.Increase (Decrease) Due to Actuarial Losses (Gains) Because of Experience Deviations from Expected*			
1. Age and Service Retirements	32,766	8,629	(94)
2. Disability Retirements	(2,150)	70,593	(220)
3. Death-in-Service Benefits	(482)	(45)	(19)
4. Withdrawals	(50,495)	(3,754)	(2,313)
5. Salary Increases	108,613	121,435	8,233
6. Investment Income	(110,404)	(48,141)	(3,092)
7. Mortality of Annuitants	(39,233)	(25,285)	116
8. January 1, 2022 Annual Increase	42,399	0	1,697
9. Other Items	26,133	65,251	8,328
E. UAAL at End of Year Before Plan Amendments and Changes in Actuarial Assumptions (C+D)	**3,546,751**	**875,528**	**(44,666)**
F. Change in UAAL Due to Change in Plan Provisions	26,734	52,243	142
G. Change in UAAL Due to Change in Actuarial Assumptions and Methods	1,853,358	732,286	81,454
H. Change in Unfunded Actuarial Accrued Liability Due to Changes in Methodology	0	0	0
I. UAAL at End of Year 6/30/2023 (E+F+G+H)	**$5,426,843**	**$1,660,057**	**$36,930**

*Explanatory Notes

1. If members retire earlier than assumed, there is a loss; if later, a gain.
2. If more members take a disability than assumed, there is a loss; if fewer, a gain.
3. If fewer active members die than assumed, there is a loss; if more, a gain.
4. If fewer members terminate employment than assumed, there is a loss; if more, a gain.
5. If there are larger salary increases than assumed, there is a loss; if smaller, a gain.
6. If there is a smaller investment return than assumed, there is a loss; if larger, a gain.
7. If benefit recipients live longer than assumed, there is a loss; if less, a gain.
8. January 1 benefit increase is greater than expected, there is a loss, if less, a gain.
9. Miscellaneous gains and losses.

STATISTICAL SECTION

2023 ANNUAL COMPREHENSIVE FINANCIAL REPORT

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Introduction

The Statistical Section provides additional historical perspective, context, and detail in order to promote a more comprehensive understanding of PERA's financial statements, note disclosures, and supplemental information. In addition, multi-year trend financial and operating information provided in this section is intended to facilitate understanding of how the agency's financial position and performance have changed over time.

Financial trend information includes a ten-year Schedule of Changes in Fiduciary Net Position. This schedule provides the history of additions and deductions for each fund and allows the reader to see the rate of growth for each addition and deduction type. The Benefits and Refunds by Type schedule shows the types of benefit payments and refunds paid out over the last ten years. These two schedules show the changes to the fund balances and the reasons for those changes over the past ten years.

Membership information includes statistics about our active, deferred, and retired members. The section includes a Summary of Membership for each fund including the ten-year counts of active and non-active members. The Schedule of New Retirees and Initial Benefits Paid for our defined benefit plans, followed by a Schedule of Benefit Recipients by Type give more detailed information about the starting benefit payment and the type of benefit selected. In addition, the schedule includes information about how many annuitants chose a joint and survivor option.

Principal Participating Employers shows the top ten participating employers in each plan compared to the top ten employers from ten years ago. In addition, information is displayed on how to view the full-listing of all participating employers and the contributions submitted to PERA. The final schedule, Privatized Employers, lists the privatized employers per Minnesota Statute chapter 325F.

The information contained in this section was produced by PERA's actuary and from internal data sources.

Schedule of Changes in Fiduciary Net Position

Last 10 Fiscal Years (in thousands)

General Employees Fund*

	2023	2022	2021	2020
Additions				
Employer Contributions	$581,044	$546,291	$524,685	$509,821
Member Contribution	487,107	457,740	439,488	435,419
State Contributions	16,000	16,000	16,000	16,000
Investment Income	2,272,563	(1,749,186)	6,712,710	931,041
Other	204	142	182	267
Total Additions to Fiduciary Net Position	3,356,918	(729,013)	7,693,065	1,892,548
Deductions				
Benefits	1,808,287	1,737,905	1,666,103	1,604,842
Refunds	67,580	73,152	58,027	84,947
Administrative Expenses	14,459	13,398	12,741	12,268
Other	—	—	—	—
Total Deductions from Fiduciary Net Position	1,890,326	1,824,455	1,736,871	1,702,057
Change in Fiduciary Net Position	**$1,466,592**	**($2,553,468)**	**$5,956,194**	**$190,491**

The General Fund has been restated to include Minneapolis Employees Retirement Fund for the ten-year schedule.

Police & Fire Fund

	2023	2022	2021	2020
Additions				
Employer Contributions	$223,305	$206,416	$201,129	$193,819
Member Contribution	144,470	133,023	129,351	123,525
State Contributions	18,000	18,000	18,000	13,500
Investment Income	912,519	(700,942)	2,672,826	368,949
Other	(61)	(20)	23	260
Total Additions to Fiduciary Net Position	1,298,233	(343,523)	3,021,329	700,053
Deductions				
Benefits	669,804	633,255	592,687	567,040
Refunds	3,747	4,196	3,060	3,181
Administrative Expenses	1,247	1,634	941	924
Other	—	—	—	—
Total Deductions from Fiduciary Net Position	674,798	639,085	596,688	571,145
Change in Fiduciary Net Position	**$623,435**	**$(982,608)**	**$2,424,641**	**$128,908**

Correctional Fund

	2023	2022	2021	2020
Additions				
Employer Contributions	$20,518	$19,227	$19,351	$19,043
Member Contributions	13,894	12,843	12,948	12,692
Investment Income	87,393	(66,015)	238,666	31,774
Other	—	—	—	—
Total Additions to Fiduciary Net Position	121,805	(33,945)	270,965	63,509
Deductions				
Benefits	27,117	23,372	20,088	17,569
Refunds	2,369	2,713	2,140	2,709
Administrative Expenses	434	371	344	332
Other	—	—	—	—
Total Deductions from Fiduciary Net Position	29,920	26,456	22,572	20,610
Change in Fiduciary Net Position	**$91,885**	**$(60,401)**	**$248,393**	**$42,899**

Schedule of Changes in Fiduciary Net Position

General Employees Fund*

	2019	2018	2017	2016	2015	2014
Additions						
	$515,444	$488,819	$477,888	$459,978	$435,265	$413,677
	424,044	409,423	400,204	375,291	353,765	334,865
	16,000	16,000	6,000	6,000	21,575	24,000
	1,547,224	2,063,582	2,682,901	(20,851)	777,621	2,906,811
	154	56	411	431	281	644
	2,502,866	2,977,880	3,567,404	820,849	1,588,507	3,679,997
Deductions						
	1,536,071	1,470,450	1,413,448	1,359,176	1,301,396	1,244,332
	65,834	42,589	37,234	37,209	35,706	38,311
	13,470	11,943	11,292	11,110	10,377	10,007
	—	—	—	—	—	—
	1,615,375	1,524,982	1,461,974	1,407,495	1,347,479	1,292,650
	$887,491	**$1,452,898**	**$2,105,430**	**($586,646)**	**$241,028**	**$2,387,347**

Police & Fire Fund

	2019	2018	2017	2016	2015	2014
Additions						
	$174,817	$170,781	$166,329	$156,065	$144,317	$132,632
	111,762	105,479	101,984	95,172	88,733	81,213
	13,500	9,000	9,000	9,000	9,000	9,000
	609,512	813,966	1,058,942	-8,949	317,556	1,158,389
	54	58	24	3	84	18
	909,645	1,099,284	1,336,279	251,291	559,690	1,381,252
Deductions						
	547,699	528,468	512,379	498,608	481,330	452,462
	3,283	1,902	2,119	2,391	1,953	1,633
	1,018	886	992	906	803	798
	—	—	—	—	—	—
	552,000	531,256	515,490	501,905	484,086	454,893
	$357,645	**$568,028**	**$820,789**	**($250,614)**	**$75,604**	**$926,359**

Correctional Fund

	2019	2018	2017	2016	2015	2014
Additions						
	$18,676	$17,871	$17,489	$16,490	$15,736	$15,054
	12,485	11,956	11,666	11,008	10,472	10,030
	50,853	62,962	78,363	209	20,373	69,451
	0	1	—	—	—	—
	82,014	92,790	107,518	27,707	46,581	94,535
Deductions						
	15,381	13,183	11,033	9,381	7,777	6,711
	2,244	1,364	1,478	982	1,057	1,105
	361	308	330	292	247	236
	—	—	—	—	—	1
	17,986	14,855	12,841	10,655	9,081	8,053
	$64,028	**$77,935**	**$94,677**	**$17,052**	**$37,500**	**$86,482**

Schedule of Changes in Fiduciary Net Position

Last 10 Fiscal Years (in thousands)

Volunteer Firefighter Fund

	2023	2022	2021	2020
Additions				
Employer Contributions	$1,331	$998	$529	$1,051
State Contribution	5,999	5,349	5,059	4,580
Investment Income	12,892	(19,459)	24,776	7,535
Other (mainly initial transfer of assets)	10,691	5,522	2,355	4,802
Total Additions to Fiduciary Net Position	30,913	(7,590)	32,719	17,968
Deductions				
Benefits	10,956	5,142	5,627	7,057
Refunds	13	0		
Administrative Expenses	201	161	12	48
Other Deductions**	0	0	0	250
Total Deductions from Fiduciary Net Position	11,170	5,303	5,639	7,355
Change in Fiduciary Net Position	**$19,743**	**$(12,893)**	**$27,080**	**$10,613**

****Other Deductions and Administrative Expenses were restated to reflect departments that transferred out of the Volunteer Firefighter Fund**

Defined Contribution Fund

	2023	2022	2021	2020
Additions				
Employer Contributions	2,365	$2,242	$2,133	$2,160
Member Contributions	2,268	2,127	2,066	2,002
Investment Income	10,622	(12,084)	23,301	5,227
Other	0	0	6	0
Total Additions to Fiduciary Net Position	15,255	(7,715)	27,506	9,389
Deductions				
Refunds	7,697	8,067	6,986	3,971
Administrative Expenses	331	298	279	234
Position	8,028	8,365	7,265	4,205
Change in Fiduciary Net Position	**$7,227**	**$(16,080)**	**$20,241**	**$5,184**

Schedule of Changes in Fiduciary Net Position

Volunteer Firefighter Fund

	2019	2018	2017	2016	2015	2014
Additions						
	$1,181	$938	$716	$332	$226	$414
	3,993	3,522	2,659	1,811	1,430	900
	7,682	4,681	6,409	1,325	880	2,623
	10,916	8,048	14,206	20,401	4,667	7,953
	23,772	17,189	23,990	23,869	7,203	11,890
Deductions						
	4,709	4,161	2,700	1,644	1,221	1,096
	111	70	61	132	86	71
	0	0	0	0	0	0
	4,820	4,231	2,761	1,776	1,307	1,167
	$18,952	**$12,958**	**$21,229**	**$22,093**	**$5,896**	**$10,723**

Defined Contribution Fund

	2019	2018	2017	2016	2015	2014
Additions						
	$2,084	$2,036	$1,822	$1,965	$1,850	$1,755
	1,957	1,911	1,739	1,779	1,698	1,628
	5,440	6,490	7,274	999	2,681	8,004
	0	0	7	2	0	0
	9,481	10,437	10,842	4,745	6,229	11,387
Deductions						
	5,959	4,326	5,233	3,755	3,489	2,800
	214	211	137	189	186	171
	6,173	4,537	5,370	3,944	3,675	2,971
	$3,308	**$5,900**	**$5,472**	**$801**	**$2,554**	**$8,416**

Benefits & Refunds by Type

Defined Benefit Plans: Last 10 Fiscal Years (in thousands)

General Employees Fund*

	2023	2022	2021	2020
Benefits by Type				
Retirement	$1,642,917	$1,574,140	$1,503,311	$1,442,689
Survivor	148,389	146,641	144,756	$142,659
Disability	16,981	17,124	18,036	$19,494
Total	$1,808,287	$1,737,905	$1,666,103	$1,604,842
Refund by Type				
Separation	$53,183	$56,234	$43,945	$59,829
Death	821	745	433	$542
Interest/Employer	13,576	16,173	13,649	$24,576
Total	$67,580	$73,152	$58,027	$84,947

year schedule

Police & Fire Fund

	2023	2022	2021	2020
Benefits by Type				
Retirement	$511,162	$486,560	$463,500	$445,843
Survivor	67,640	66,167	64,688	$63,210
Disability	91,002	80,528	64,499	$57,987
Total	$669,804	$633,255	$592,687	$567,040
Refund by Type				
Separation	$2,923	$3,428	$2,476	$2,390
Death	211	—	—	$65
Interest/Employer	613	768	584	$726
Total	$3,747	$4,196	$3,060	$3,181

Correctional Fund

	2023	2022	2021	2020
Benefits by Type				
Retirement	$22,754	$19,565	$16,571	$14,307
Survivor	1,059	884	811	$712
Disability	3,304	2,923	2,706	$2,550
Total	$27,117	$23,372	$20,088	$18
Refund by Type				
Separation	$2,023	$2,253	$1,731	$2,034
Death	—	2	—	$38
Interest/Employer	346	458	409	$637
Total	$2,369	$2,713	$2,140	$2,709

Volunteer Firefighter Fund

	2023	2022	2021	2020
Benefits by Type				
Retirement	$1,086	$1,020	$953	$903
Survivor	86	87	84	$90
Lump Sum Benefit	9,784	4,035	4,590	$6,064
Total	$10,956	$5,142	$5,627	$7,057

Benefits & Refunds by Type

General Employees Fund*

	2019	2018	2017	2016	2015	2014
Benefits by Type						
	$1,373,267	$1,307,364	$1,250,427	$1,195,640	$1,137,897	$1,081,088
	142,187	141,781	141,449	140,630	141,178	140,423
	20,617	21,305	21,572	22,906	22,321	22,821
	$1,536,071	$1,470,450	$1,413,448	$1,359,176	$1,301,396	$1,244,332
Refund by Type						
	$43,723	$30,981	$27,513	$27,601	$26,179	$27,962
	812	582	508	505	731	551
	21,299	11,026	9,213	9,103	8,796	9,798
	$65,834	$42,589	$37,234	$37,209	$35,706	$38,311

Police & Fire Fund

	2019	2018	2017	2016	2015	2014
Benefits by Type						
	$432,012	$416,652	$403,053	$391,952	$379,068	$353,620
	60,872	59,438	58,568	58,119	56,523	54,462
	54,814	52,378	50,758	48,537	45,739	44,380
	$547,698	$528,468	$512,379	$498,608	$481,330	$452,462
Refund by Type						
	$2,117	$1,444	$1,599	$1,540	$1,423	$1,179
	29	—	52	—	—	—
	1,137	458	468	851	530	454
	$3,283	$1,902	$2,119	$2,391	$1,953	$1,633

Correctional Fund

	2019	2018	2017	2016	2015	2014
Benefits by Type						
	$12,287	$10,357	$8,555	$6,954	$5,528	$4,427
	617	529	437	372	278	240
	2,477	2,297	2,041	2,055	1,971	2,044
	$15,381	$13,183	$11,033	$9,381	$7,777	$6,711
Refund by Type						
	$1,617	$1,049	$1,129	$792	$821	$844
	0	35	45	—	29	—
	627	280	304	190	207	261
	$2,244	$1,364	$1,478	$982	$1,057	$1,105

Volunteer Firefighter Fund

	2019	2018	2017	2016	2015	2014
Benefits by Type						
	$762	$607	$554	$279	$0	$0
	58	49	51	23	—	—
	3,889	3,505	2,095	1,342	1,221	1,096
	$4,709	$4,161	$2,700	$1,644	$1,221	$1,096

Summary of Membership

Defined Benefit Plans—Last 10 Years

General Employees Fund

Fiscal Year	Active	Benefit Recipients	Terminated Vested	Terminated Non-Vested	Total
2023	154,261	119,080	70,221	88,292	431,854
2022	149,987	115,980	68,636	84,675	419,278
2021	149,281	112,232	66,048	81,052	408,613
2020	153,741	108,492	64,672	79,069	405,974
2019	154,130	105,243	63,311	126,116	448,800
2018	153,059	101,772	61,066	138,768	454,665
2017	152,867	98,201	52,274	138,335	441,677
2016	148,745	94,288	52,516	132,416	427,965
2015	145,650	90,592	51,605	125,366	413,213
2014	143,434	83,134	48,505	121,018	396,091

Police & Fire Plan

Fiscal Year	Active	Benefit Recipients	Terminated Vested	Terminated Non-Vested	Total
2023	11,635	12,601	1,966	941	27,143
2022	11,629	12,107	1,864	957	26,557
2021	11,705	11,656	1,813	912	26,086
2020	12,025	11,201	1,686	894	25,806
2019	11,763	11,031	1,620	1,145	25,559
2018	11,673	10,756	1,580	1,188	25,197
2017	11,522	10,579	1,506	1,134	24,741
2016	11,398	10,352	1,490	1,059	24,299
2015	11,157	10,209	1,560	995	23,921
2014	10,879	10,039	1,481	975	23,374

Summary of Membership

Correctional Plan

Fiscal Year	Active	Benefit Recipients	Terminated Vested	Terminated Non-Vested	Total
2023	3,786	1,843	4,378	2,604	12,611
2022	3,564	1,717	4,129	2,480	11,890
2021	3,788	1,572	3,832	2,200	11,392
2020	3,855	1,443	3,637	2,184	11,119
2019	3,965	1,318	3,374	2,790	11,447
2018	3,981	1,193	3,165	2,811	11,150
2017	3,842	1,085	2,933	2,624	10,484
2016	3,827	967	2,755	2,359	9,908
2015	3,692	864	2,620	2,139	9,315
2014	3,603	769	2,380	1,936	8,688

Volunteer Firefighter Plan*

Fiscal Year	Active	Benefit Recipients	Terminated Vested	Terminated Non-Vested	Total
2023	4,454	142	1,302	0	5,898
2022	4,186	143	1,156	0	5,485
2021	4,007	140	1,032	0	5,179
2020	3,773	136	968	0	4,877
2019	3,517	137	840	0	4,494
2018	3,256	86	751	0	4,093
2017	2,753	75	560	0	3,388
2016*	1,639	79	928	0	2,646

*The first monthly benefit division participant joined the Volunteer Firefighter Plan on January 1, 2016

Schedule of New Retirees and Initial Benefit Paid

Defined Benefit Plans—Last 10 Years

General Employees Plan

	Years Credited Service						
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 +
2023							
Average monthly benefit	$154	$368	$642	$982	$1,340	$1,857	$3,340
Average high five salary	$4,516	$3,113	$3,302	$3,626	$4,043	$4,581	$5,932
Number of retirees	761	1109	836	786	905	631	1,062
2022							
Average monthly benefit	$153	$352	$687	$1,009	$1,351	$1,825	$3,287
Average high five salary	$4,190	$3,091	$3,368	$3,677	$3,991	$4,424	$5,793
Number of retirees	830	1228	906	878	939	712	1,242
2021							
Average monthly benefit	$148	$346	$646	$996	$1,289	$1,684	$3,247
Average high five salary	$4,009	$2,930	$3,132	$3,569	$3,825	$4,086	$5,678
Number of retirees	810	1,116	903	829	946	740	1,242
2020							
Average monthly benefit	$157	$343	$677	$981	$1,312	$1,775	$3,232
Average high five salary	$4,232	$2,910	$3,207	$3,529	$3,893	$4,283	$5,632
Number of retirees	689	950	873	781	809	675	1,204
2019							
Average monthly benefit	$158	$339	$627	$969	$1,301	$1,784	$3,147
Average high five salary	$4,104	$2,813	$3,165	$3,525	$3,752	$4,250	$5,489
Number of retirees	749	1,007	966	885	801	769	1,304
2018							
Average monthly benefit	$164	$331	$599	$921	$1,213	$1,804	$3,018
Average high five salary	$4,145	$2,755	$3,008	$3,435	$3,600	$4,222	$5,304
Number of retirees	691	867	846	880	806	788	1,224
2017							
Average monthly benefit	$154	$333	$614	$866	$1,195	$1,761	$2,956
Average high five salary	$4,170	$2,719	$3,076	$3,283	$3,586	$4,130	$5,190
Number of retirees	630	795	836	841	718	758	1,125
2016							
Average monthly benefit	$142	$317	$576	$864	$1,193	$1,802	$2,877
Average high five salary	$3,772	$2,731	$2,896	$3,189	$3,496	$4,171	$5,080
Number of retirees	619	875	821	776	793	810	1,187
2015							
Average monthly benefit	$139	$309	$571	$866	$1,134	$1,781	$2,771
Average high five salary	$3,714	$2,500	$2,830	$3,236	$3,422	$4,109	$4,911
Number of retirees	579	901	864	808	814	813	1,174
2014							
Average monthly benefit	$139	$308	$588	$808	$1,199	$1,750	$2,809
Average high five salary	$3,716	$2,563	$2,953	$3,027	$3,534	$4,009	$4,963
Number of retirees	628	853	848	791	807	758	1,218

Schedule of New Retirees and Initial Benefit Paid

Police & Fire Plan

	Years Credited Service						
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 +
2023							
Average monthly benefit	$536	$1,463	$2,639	$3,827	$5,427	$7,247	$9,274
Average high five salary	$5,232	$4,960	$5,899	$7,147	$8,157	$9,230	$9,663
Number of retirees	27	34	29	59	92	153	100
2022							
Average monthly benefit	$453	$1,611	$2,453	$3,681	$5,191	$6,772	$8,948
Average high five salary	$5,082	$5,171	$5,790	$7,156	$7,937	$8,621	$9,365
Number of retirees	17	22	20	39	100	140	98
2021							
Average monthly benefit	$347	$1,172	$2,446	$3,781	$5,329	$6,841	$8,825
Average high five salary	$4,008	$4,978	$5,993	$7,312	$8,184	$8,604	$9,270
Number of retirees	14	23	28	32	94	129	119
2020							
Average monthly benefit	$483	$1,496	$2,492	$3,565	$4,958	$6,554	$8,529
Average high five salary	$5,349	$5,165	$6,312	$6,920	$7,560	$8,124	$8,930
Number of retirees	20	21	22	40	64	74	55
2019							
Average monthly benefit	$375	$1,419	$2,580	$3,662	$4,802	$6,252	$8,085
Average high five salary	$4,587	$5,526	$6,377	$7,087	$7,448	$7,840	$8,582
Number of retirees	20	23	22	33	79	108	110
2018							
Average monthly benefit	$838	$1,654	$2,418	$3,188	$4,726	$6,239	$7,705
Average high five salary	$4,969	$5,272	$5,798	$6,380	$7,170	$7,857	$8,149
Number of retirees	15	14	32	30	69	84	64
2017							
Average monthly benefit	$583	$1,370	$2,133	$3,512	$4,321	$5,990	$8,096
Average high five salary	$5,387	$4,615	$5,277	$6,523	$6,772	$7,575	$8,426
Number of retirees	18	25	24	34	59	98	74
2016							
Average monthly benefit	$565	$1,363	$2,130	$3,152	$4,403	$5,649	$7,322
Average high five salary	$6,026	$5,244	$5,110	$6,023	$6,821	$7,171	$7,613
Number of retirees	20	17	18	30	59	91	44
2015							
Average monthly benefit	$278	$1,559	$2,202	$3,290	$4,232	$5,791	$7,394
Average high five salary	$5,703	$5,563	$5,631	$6,172	$6,553	$7,299	$7,401
Number of retirees	16	16	27	33	56	81	47
2014							
Average monthly benefit	$375	$1,358	$2,081	$3,070	$4,479	$5,611	$6,952
Average high five salary	$4,290	$4,612	$5,379	$5,815	$6,730	$7,018	$7,233
Number of retirees	17	33	37	63	93	205	135

Schedule of New Retirees and Initial Benefit Paid

Defined Benefit Plans—Last 10 Years

Correctional Plan*

	Years Credited Service						
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 +
2023							
Average monthly benefit	$186	$882	$1,385	$2,041	$2,730		
Average high five salary	$5,661	$4,976	$5,177	$6,061	$6,519		
Number of retirees	28	18	20	21	43		
2022							
Average monthly benefit	$239	$768	$1,318	$2,001	$2,600		
Average high five salary	$4,419	$4,495	$5,676	$5,878	$6,344		
Number of retirees	26	19	13	29	73		
2021							
Average monthly benefit	$307	$555	$1,080	$1,561	$2,639		
Average high five salary	$4,361	$3,936	$4,366	$5,064	$6,622		
Number of retirees	32	18	19	21	49		
2020							
Average monthly benefit	$351	$654	$1,219	$1,868	$2,454		
Average high five salary	$4,474	$4,147	$4,946	$5,437	$6,383		
Number of retirees	35	18	15	32	32		
2019							
Average monthly benefit	$269	$595	$990	$1,917			
Average high five salary	$3,947	$3,760	$4,447	$5,497			
Number of retirees	26	15	20	62			
2018							
Average monthly benefit	$287	$644	$1,112	$1,963			
Average high five salary	$4,176	$3,799	$4,860	$5,823			
Number of retirees	15	12	27	61			
2017							
Average monthly benefit	$340	$703	$1,088	$1,749			
Average high five salary	$4,463	$4,099	$4,601	$5,524			
Number of retirees	15	17	29	58			
2016							
Average monthly benefit	$201	$552	$1,107	$1,513			
Average high five salary	$3,930	$3,655	$4,713	$4,928			
Number of retirees	13	21	20	48			
2015							
Average monthly benefit	$501	$758	$1,106	$1,510			
Average high five salary	$4,436	$3,924	$4,364	$5,218			
Number of retirees	15	21	30	37			
2014							
Average monthly benefit	$668	$706	$1,200				
Average high five salary	$3,938	$3,960	$4,797				
Number of retirees	17	23	43				

*The Correctional Plan was established July 1, 1999.

Schedule of New Retirees and Initial Benefit Paid

Volunteer Firefighter Plan**

	Years Credited Service						
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 +
2023							
Average monthly benefit			$668				
Average high five salary							
Number of retirees			3				
2022							
Average monthly benefit			$483	$1,092			
Average high five salary							
Number of retirees			4	1			
2021							
Average monthly benefit			$412				
Average high five salary**							
Number of retirees			2				
2020							
Average monthly benefit			$391	693	$1,058		
Average high five salary**							
Number of retirees			3	4	1		
2019							
Average monthly benefit			323		$975		
Average high five salary**							
Number of retirees			2		3		
2018							
Average monthly benefit			447		156		1260
Average high five salary**							
Number of retirees			1		10		1
2017							
Average monthly benefit					$722		
Average high five salary**							
Number of retirees					3		
2016*							
Average monthly benefit		166	357	561	771	975	
Average high five salary**							
Number of retirees		1	10	13	48	3	

*The first monthly benefit division employer joined the Volunteer Firefighter Plan on January 1, 2016.
**The monthly benefit is based on years of service, not salary.

Schedule of Benefit Recipients by Type

As of June 30, 2023

General Employees Plan

Amount of Monthly Benefit	Number of Benefit Recipients	Type of Benefit				Option Selected					
		A	B	C	D	1	2	3	4	5	6
$1–250	24,631	22,667	417	1,419	128	14,957	7,542	419	1029	542	10
251–500	18,484	16,848	268	1,207	161	10,934	5,121	426	1,211	666	14
501–750	13,749	12,438	208	953	150	7,797	3,721	381	1078	633	4
751–1000	10,554	9,549	148	727	130	5,837	2,792	360	979	510	2
1001–1250	8,266	7,450	110	595	111	4,317	2,271	320	802	491	2
1251–1500	6,613	5,965	68	488	92	3,246	1,889	352	677	407	1
1501–1750	5,493	4,941	79	396	77	2,513	1,584	358	641	348	3
1751–2000	4,711	4,277	47	324	63	2,073	1,368	327	584	310	0
2001–2250	4,106	3,741	36	278	51	1,740	1,211	256	555	305	1
2251–2500	3,615	3,312	40	237	26	1,457	1,090	233	532	264	0
2501–2750	3,156	2,884	41	206	25	1,206	990	212	475	230	2
2751–3000	2,699	2,503	26	153	17	1070	834	179	361	205	0
3001–3250	2,214	2,036	15	144	19	833	674	167	321	173	0
3251–3500	1,941	1,783	22	125	11	707	622	138	260	157	2
3501–3750	1,616	1,477	23	105	11	586	502	121	237	127	1
3751–4000	1,256	1,162	14	75	5	446	410	80	183	103	1
4001–4250	1,069	990	12	65	2	358	351	77	179	67	0
4251–4500	894	837	4	53	0	311	265	58	156	72	0
4501–4750	677	621	7	47	2	220	242	43	110	46	0
4751–5000	629	581	2	44	2	196	220	41	86	61	1
5001–5250	469	419	6	42	2	151	139	43	75	34	0
5251–5500	394	358	4	30	2	133	125	38	53	34	0
5501–5750	332	296	3	31	2	104	121	23	50	24	0
5751–6000	283	250	2	31	0	100	82	29	39	19	0
6001–6250	210	192	3	15	0	74	56	17	37	18	0
6251–6500	185	173	0	11	1	57	57	16	38	12	0
6501–6750	142	130	1	11	0	37	47	11	26	13	1
6751–7000	116	105	1	10	0	21	46	7	25	9	0
Over 7000	511	456	5	50	0	161	139	60	95	35	0
Totals	119,015	108,441	1,612	7,872	1,090	61,642	34,511	4,792	10,894	5,915	45

Type of Benefit	Option Selected
A Retirement	**1** Single Life
B Survivor of Active Member	**2** 100% Joint & Survivor
C Survivor of Benefit Recipient	**3** 75% Joint & Survivor
D Disability	**4** 50% Joint & Survivor
	5 25% Joint & Survivor
	6 Other (Death, Term-certain, Children's Benefits, etc.)

Schedule of Benefit Recipients by Type

Police & Fire Plan

Amount of Monthly Benefit	Number of Benefit Recipients	Type of Benefit					Option Selected					
		A	B	C	D	E	1	2	3	4	5	6
$1–250	170	138	7	20	1	4	62	81	7	9	6	0
251–500	168	141	3	22	1	1	52	81	2	19	11	0
501–750	151	119	8	22	1	1	37	72	9	15	10	1
751–1000	149	111	5	29	1	3	55	42	5	25	18	1
1001–1250	181	119	4	54	2	2	52	56	5	28	28	1
1251–1500	179	108	10	53	4	4	49	54	10	16	31	1
1501–1750	205	111	8	77	5	4	46	57	20	26	15	2
1751–2000	238	119	17	85	8	9	55	58	13	42	13	1
2001–2250	260	125	20	90	13	12	63	61	11	65	8	0
2251–2500	308	149	24	87	30	18	70	101	11	52	16	1
2501–2750	336	163	29	86	24	34	84	90	27	62	13	1
2751–3000	418	201	30	114	18	55	90	118	35	78	15	1
3001–3250	636	198	83	266	14	75	89	128	30	68	15	1
3251–3500	486	286	17	59	9	115	130	172	46	68	18	1
3501–3750	487	287	13	57	6	124	134	166	49	73	21	1
3751–4000	564	323	20	52	13	156	180	193	37	78	30	0
4001–4250	625	362	14	59	12	178	186	206	58	82	42	0
4251–4500	559	368	13	32	12	134	158	182	71	83	30	0
4501–4750	630	445	12	29	16	128	169	185	67	103	43	0
4751–5000	578	425	7	40	9	97	165	174	76	85	31	0
5001–5250	575	455	10	33	8	69	143	184	67	98	39	0
5251–5500	605	494	8	26	9	68	166	153	85	106	40	0
5501–5750	495	389	5	22	34	45	114	117	72	92	29	0
5751–6000	767	719	2	11	5	30	132	110	61	112	43	0
6001–6250	354	299	5	12	9	29	88	116	49	67	29	0
6251–6500	344	312	3	5	3	21	93	87	60	75	28	0
6501–6750	280	251	4	3	3	19	76	86	43	54	18	0
6751–7000	279	247	2	10	3	17	73	92	38	58	16	1
Over 7000	1452	1351	1	25	11	64	390	472	206	267	116	0
Totals	12,479	8,815	384	1,480	284	1,516	3,201	3,694	1,270	2,006	772	14

Type of Benefit	Option Selected
A Retirement	**1** Single Life
B Survivor of Active Member	**2** 100% Joint & Survivor
C Survivor of Benefit Recipient	**3** 75% Joint & Survivor
D Non-Duty Disability	**4** 50% Joint & Survivor
E Line-of-Duty Disability	**5** 25% Joint & Survivor
	6 Other

Schedule of Benefit Recipients by Type

As of June 30, 2023 (continued from previous page)

Correctional Plan

Amount of Monthly Benefit	Number of Benefit Recipients	Type of Benefit					Option Selected					
		A	B	C	D	E	1	2	3	4	5	6
$1–250	248	226	7	12	3	0	136	81	6	13	11	1
251–500	183	168	3	11	1	0	95	59	2	18	9	0
501–750	192	168	8	10	6	0	90	68	11	18	4	1
751–1000	196	163	5	16	12	0	86	69	9	17	12	3
1001–1250	180	161	2	3	11	3	76	73	8	13	10	0
1251–1500	167	154	3	2	6	2	71	53	10	24	8	1
1501–1750	141	128	1	2	3	7	66	46	10	9	9	1
1751–2000	130	117	1	4	1	7	54	55	8	8	4	1
2001–2250	108	96	1	1	2	8	41	42	3	13	9	1
2251–2500	99	83	1	1	1	13	44	39	1	7	7	1
2501–2750	71	53	0	0	1	17	31	27	0	7	6	0
2751–3000	54	38	1	1	0	14	24	19	1	5	4	1
3001–3250	30	23	1	0	0	6	16	6	1	3	3	1
3251–3500	25	21	0	0	1	3	16	7	1	0	1	0
3501–3750	9	6	1	0	0	2	6	1	0	0	1	1
3751–4000	4	2	0	0	0	2	2	1	1	0	0	0
4001–4250	3	2	0	0	0	1	1	0	0	0	2	0
4251–4500	1	1	0	0	0	0	0	1	0	0	0	0
Totals	1,841	1,610	35	63	48	85	855	647	72	155	100	13

Type of Benefit	Option Selected
A Retirement	**1** Single Life
B Survivor of Active Member	**2** 100% Joint & Survivor
C Survivor of Benefit Recipient	**3** 75% Joint & Survivor
D Non-Duty Disability	**4** 50% Joint & Survivor
E Line-of-Duty Disability	**5** 25% Joint & Survivor
	6 Other

Volunteer Firefighter Plan

Amount of Monthly Benefit	Number of Benefit Recipients	Type of Benefit			Option Selected		
		A	B	C	1	2	3
$1–250	22	17	5	0	14	2	6
251–500	27	25	2	0	10	9	8
501–750	32	26	6	0	11	15	6
751–1000	59	57	2	0	11	45	3
Over 1000	3	3	0	0	0	2	1
Totals	143	128	15	0	46	73	24

Type of Benefit	Option Selected
A Retirement	**1** Single Life
B Survivor of Active Member	**2** 75% Joint & Survivor
C Survivor of Benefit Recipient	**3** 50% Joint & Survivor

Principal Participating Employers

Defined Benefit Plans—Top 10 Listing

General Employees Fund*

FY 2023

Employer Name	Active Members	% of Total Active Members
HENNEPIN COUNTY	8,119	5.16%
HENNEPIN HEALTHCARE SYSTEM	5,500	3.49%
MINNEAPOLIS SPECIAL ISD-1	5,001	3.18%
CITY OF MINNEAPOLIS	3,724	2.37%
RAMSEY COUNTY	3,527	2.24%
ANOKA-HENNEPIN ISD-11	2,971	1.89%
ST PAUL ISD-625	2,717	1.73%
ROSEMOUNT ISD- 196	2,445	1.55%
CITY OF ST PAUL	2,311	1.47%
DAKOTA COUNTY	1,916	1.22%

Police & Fire Plan*

FY 2023

Employer Name	Active Members	% of Total Active Members
CITY OF ST PAUL	1,025	8.52%
CITY OF MINNEAPOLIS	1,023	8.50%
HENNEPIN COUNTY	304	2.53%
CITY OF DULUTH	274	2.28%
CITY OF ROCHESTER	238	1.98%
RAMSEY COUNTY	226	1.88%
HENNEPIN HEALTHCARE SYSTEM	190	1.58%
CITY OF ST CLOUD	181	1.50%
WRIGHT COUNTY	164	1.36%
CITY OF BLOOMINGTON	155	1.29%

*A complete listing or participating employers can be found at:
https://mnpera.org/employers/financial-resource-center/

Continued

Principal Participating Employers

Defined Benefit Plans—Top 10 Listing (continued from previous page)

Correctional Plan*

FY 2023

Employer	Active Members	Active Members
HENNEPIN COUNTY	458	11.99%
RAMSEY COUNTY	420	10.99%
ANOKA COUNTY	226	5.91%
SHERBURNE COUNTY	150	3.93%
DAKOTA COUNTY	141	3.69%
CLAY COUNTY	118	3.09%
PRAIRIE LAKES DETENTION CENTER	112	2.93%
OLMSTED COUNTY	94	2.46%
SCOTT COUNTY	89	2.33%
ARROWHEAD REGIONAL CORRECTIONS	83	2.17%

Volunteer Firefighter Plan**

FY 2023

Employer	Active Members	% of Total Active Members
CITY OF VADNAIS HEIGHTS VOL FIRE DEPT	56	1.03%
CITY OF COTTAGE GROVE	55	1.01%
CITY OF OAK GROVE	53	0.98%
CITY OF HASTINGS	52	0.96%
CITY OF VICTORIA	51	0.94%
CITY OF CARVER	49	0.90%
CITY OF WILLMAR	46	0.85%
CITY OF WACONIA	44	0.81%
ISANTI AREA JOINT FIRE DISTRICT	44	0.81%
CITY OF WHITE BEAR LAKE	42	0.77%

*A complete listing or participating employers can be found at: https://mnpera.org/employers/financial-resource-center/
**A complete listing or participating employers can be found at: https://mnpera.org/plan-information/statewide-volunteer-firefighter-retirement-plan/departments-participating-in-the-statewide-plan/

Privatized Employers

Below is a list of privatized employers per Minnesota Statute Chapter 325F.

ALLINA RICE COUNTY DISTRICT 1 HOSPITAL
BENEDICTINE LIVING COMMUNITY OF ST PETER
CANNON FALLS MED CENTER - MAYO HEALTH
CEDARVIEW CARE CENTER
CENTRACARE HEALTH - PAYNESVILLE
CENTRACARE HEALTH SYSTEM - SAUK CENTRE
CHRIS JENSEN NURSING HOME LLC
CITY OF GLENCOE REGIONAL HEALTH CENTER
CITY OF GRANITE FALLS HOSPITAL AND MANOR
CITY OF LAKEFIELD COLONIAL NURSING HOME
CITY OF WILLMAR RICE MEMORIAL HOSPITAL
CORNERSTONE NURSING & REHAB CENTER
ESSENTIA BRIDGES MEDICAL CENTER
ESSENTIA HEALTH VIRGINIA LLC
FAIR OAKS LODGE
HARMONY RIVER LIVING CENTER
HUTCHINSON AREA HEALTH CARE
LAKE COUNTY SUNRISE HOME
LAKELAND MEDICAL CENTER
LAKESIDE HEALTH CARE CENTER
OAK TERRACE HEALTH CARE CENTER
PENNINGTON COUNTY OAKLAND PARK NURSING
REDWOOD AREA HOSPITAL
RENVILLE COUNTY HOSPITAL
RENVILLE HEALTH SERVICES
RIDGEVIEW MEDICAL CENTER
SANFORD HEALTH WHEATON MEDICAL CENTER
SANFORD HOSPITAL LUVERNE
SANFORD REGIONAL HOSPITAL WORTHINGTON
SIBLEY MEDICAL CENTER
ST PAUL ARENA COMPANY
SWIFT COUNTY BENSON HOSPITAL
TRAVERSE CARE CENTER
WEINER HOSPITAL, CITY OF MARSHALL
WILLMAR MEDICAL SERVICES LLP
WWWRRR

PUBLIC EMPLOYEES
RETIREMENT ASSOCIATION

Public Employees Retirement Association
60 Empire Drive | Suite 200
St. Paul, MN 55103-2088
mnpera.org