PSRSSTL
Public School Retirement System of the City of St. Louis

Annual Comprehensive Financial Report

Begin Here

Public School Retirement System of the City of St. Louis, Missouri

A Pension Trust Fund for Public School Employees

For the Fiscal Years Ended: December 31, 2022 & 2021

Public School Retirement System of the City of St. Louis

A Pension Trust Fund for Public School Employees

3641 Olive Street
Suite 300
St. Louis, Missouri 63108-3601

(314) 534-7444
www.psrsstl.org

Annual Comprehensive Financial Report

For the Fiscal Years Ended December 31, 2022 and 2021

Prepared by:
Susan Kane, CEBS
Executive Director

Mission Statement

The mission of the Public School Retirement System of the City of St. Louis is to enhance the well-being and financial security of its members, retirees and beneficiaries through benefit programs and services which are soundly financed and prudently administered in an effective and efficient manner.

Mission Statement Principles

The Retirement System adopts the following principles advocated by the National Council on Teacher Retirement, and with respect to such principles hereby pledges as follows:

1. **Courteous Service.** To give members prompt and courteous service and provide complete and accurate information.
2. **Member Statements.** To provide each active member with an annual statement that includes the member's accrued service credit, employee contributions, and other related information.
3. **Information.** To provide new participants in the system a summary plan description that clearly and simply summarizes the benefit provisions of the plan. The System will make available information on changes made in benefits.
4. **Annual Reports.** Full disclosure of financial, actuarial, and investment information in a detailed annual report that will be available for members, elected officials, and the public.
5. **Financial Audits.** To prepare or cause to be prepared an annual financial statement in accordance with generally accepted accounting principles and have an annual audit of the System's financial statement in accordance with generally accepted auditing standards.
6. **Actuarial Studies.** To have an annual or biennial actuarial valuation performed by an enrolled actuary in accordance with actuarial standards and an actuarial experience study at least every five years.
7. **Adequate Funding.** To work to obtain adequate funding of all promised benefits and to ensure the financial integrity of this System.
8. **Independence of Retirement Systems.** To work for a retirement system which functions as an independent retirement trust, separate from state and local government. Such independence includes the power of trustees to set actuarial assumptions, appoint professionals such as actuaries and attorneys on whom they must rely to carry out their responsibilities, and to establish a budget for the System which ensures the delivery of high quality, cost-effective service to their members.
9. **Exclusive Benefit.** To act for the exclusive benefit of the members as fiduciaries entrusted with the management and payment of retirement benefits.
10. **Prudent Investments.** To adopt comprehensive objectives, methods for evaluation of performance, and policies which ensure both the prudent investment of plan assets and the achievement of the highest possible investment return.
11. **Ethical Conduct.** To adhere to the highest standards of conduct set out in the terms of the trust, state statute or other law.
12. **State and Local Government Authority.** To support the continuation of state and local pension plan oversight by the respective state or local government to ensure that decisions are made at the appropriate level of government.

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Introductory Section

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The mission of the Public School Retirement System of the City of St. Louis is...

Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

Public School Retirement System of the City of St. Louis Missouri

For its Annual Comprehensive Financial Report For the Fiscal Year Ended

December 31, 2021

Christopher P. Morrill

Executive Director/CEO

Board of Trustees

An eleven-member Board of Trustees is responsible for general administration of the Retirement System and investing System assets. Active members elect five trustees: one administrator, two teachers and two non-teachers. Retired members elect two trustees: one retired teacher and one retired non-teacher. The St. Louis Public Schools ("SLPS") Board of Education appoints four trustees. Length of term of office is four years. The following individuals serve on the Public School Retirement System of the City of St. Louis Board of Trustees.

Elected by Active Members	Term Ends	Trustee Representation
Yvette Levy	12-31-2023	Active Administrator
Albert Sanders	12-31-2023	Active Teacher
Sheila Goodwin	12-31-2024	Active Teacher
Bobbie Richardson	12-31-2025	Active Non-teacher
Shanise Johnson	12-31-2026	Active Non-teacher

Elected by Retired Members	Term Ends	Trustee Representation
Louis Cross	09-30-2023	Retired Teacher
Dorris Walker	09-30-2025	Retired Non-Teacher

SLPS Appointments	Term Ends	Trustee Representation
Donna Jones	12-31-2023	SLPS Board of Education
Martel Mann	12-31-2024	SLPS Board of Education
Angela Banks	12-31-2025	SLPS Board of Education
Christina Bennett	12-31-2026	SLPS Board of Education

Public School Retirement System
of the City of St. Louis
3641 Olive Street, Suite 300
St. Louis, MO 63108-3601

Office of the
Executive Director

Phone: (314) 534-7444
Fax: (314) 533-0531

June 1, 2023

To the Board of Trustees and Members of the Retirement System:

I am pleased to present the Annual Comprehensive Financial Report (Annual Report) for the Public School Retirement System of the City of St. Louis ("PSRSSTL", "System", "fund" or "plan") for the fiscal years ended December 31, 2022 and December 31, 2021. Management of the System is responsible for the content in this report. To the best of my knowledge, I believe the information in this report is accurate, in all material respects, and presented in a manner that fairly portrays the financial position and operations of the plan for fiscal years 2022 and 2021.

Overview of the Retirement System

The Public School Retirement System of the City of St. Louis was established January 1, 1944. Through acts of the Missouri Legislature, the System provides retirement benefits to employees of the St. Louis Public Schools District, the System, a number of Charter Schools located in the St. Louis Public Schools District and certain past employees of Harris-Stowe State College. The System's members are covered by Social Security and eligible for Social Security benefits in addition to retirement benefits provided by the plan.

Financial Information

An independent certified accounting firm performs a financial audit each year. The financial statements of the System are prepared in conformity with accounting principles generally accepted in the U.S.A. (GAAP) within guidelines established by the Governmental Accounting Standards Board (GASB). Management uses internal controls to help protect the System's assets from loss due to unauthorized use or erroneous disposition. These internal controls are constrained to keep costs from outweighing the benefits derived from them so there are natural limits to preventing all errors or instances of fraud. Management is confident that within reason, not absolute assurance, the financial statements meet the important objective of providing information free of material misstatements. Please refer to the Management Discussion and Analysis ("MD&A") in the Financial Section for an overview of the System's financial highlights that includes a review of the additions and deductions from the plan during 2022 and 2021.

Investment Activities

The overall investment return for the plan during 2022 was -10.99%, which was lower than the actuarial assumed rate of return of 7.0% adopted by the Board of Trustees in 2021. Thus, the investments lost value to the fund for the year. In comparison to other public plans in the Public Fund Defined Benefit Universe, the System's investment return for 2022 ranked in the top 20th percentile when compared to other public pension plans while maintaining similar risk as the peer group.

The Board of Trustees governs investments of the fund through the adoption of investment policies and guidelines, amended as needed, that define the plan's objectives, monitoring procedures and performance measures. The Investment Policies and Operating Guidelines lay out specific parameters for performance expectations, eligible investments, and portfolio characteristics. Key to the success of this governance is the determination of an Asset Allocation Policy. The policy is reviewed by the Board of Trustees at least annually and modified as needed to maximize returns while minimizing risk within the accepted investment guidelines of the System. Through advice from the Investment Consultant, management and staff are primarily responsible for implementing and monitoring the Asset Allocation Policy adopted by the Board of Trustees. Detailed investment information can be found in the Investment Section.

Funding Status and Valuation Results

The System is a defined benefit plan, which means that certain benefit provisions are used in a formula to determine each member's retirement benefit. The formula to calculate retirement benefits for members hired on or before December 31, 2017, is credited service (years of service) multiplied by average compensation (final average salary for three consecutive years) multiplied by 2% (pension multiplier). For members hired for the first time on or after January 1, 2018, the pension multiplier is 1.75%, which changes the retirement benefits formula for these members.

Each year, the System has an actuarial valuation conducted by an independent Actuary. The actuarial valuation has two main purposes: (1) to determine the annual required contribution (ARC), the portion of covered payroll, that employers must pay during a given year, including actuarially determined contributions that would ensure assets are available for benefit obligations into the future and to guarantee actuarial soundness of the fund and (2) to measure the relative financial health of the System.

To determine the relative financial health of the System, the Actuary calculates the plan's actuarial accrued liability using the System's benefit provisions and actuarial assumptions in effect at the time of the calculation. The actuarial accrued liability is then compared to the actuarial value of assets to arrive at a percentage or Funded Ratio. The Funded Ratio measures the ability of the System to pay retirement benefits over the course of time, usually the next 30 years. For plan year 2022, the Funded Ratio was 73.6%, which is the sixth year in a row that the Funded Ratio for the System remained below 80%. The main reason for the low measurements is due to the downgrade of the retirement system's assumed rate of return (discount rate) from 8.0% to 7.5%, in plan year 2017 and then down to 7.0% in 2021.

The Actuary calculates an ARC that is adequate to fund the normal costs of the plan that includes the unfunded actuarial accrued liability amortized over a 30-year period. The Actuary presents the annual Actuarial Valuation Report to the Board of Trustees for consideration. Once the Board of Trustees accepts the actuarial valuation for the year, the employers are notified of the ARC as governed by state statute.

Legislative Information

There were no major legislative changes in 2022 that directly affected the System. The last major change to the System's plan provisions occurred in 2017. For more details on the 2017 changes, please refer to the legislative history of the plan summarized on the last page of the Statistical Section.

Professional Services

Certain professional services are provided to the System by retained consultants. The required opinion letters from the Actuary, Buck Global, LLC, and Independent Certified Public Accountants, Anders Minkler Huber & Helm LLP, are contained in the appropriate sections of this report.

The retained consultants that provide professional services to the System appear at the end of this section. Investment professionals that provide brokerage and investment management services to the System can be found on pages 73-75 in the Investment Section.

Certificate of Achievement

Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the Public School Retirement System of the City of St. Louis for its comprehensive annual financial report for the fiscal year ended December 31, 2021. This was the eleventh consecutive year the System has achieved this prestigious award. In order to be awarded a Certificate of Achievement, the System 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. The System believes our current annual comprehensive financial report continues to meet the Certificate of Achievement Program's requirements and the System is submitting it to GFOA to determine its eligibility for another certificate.

Acknowledgments

I would like to thank the Board of Trustees, staff and consultants for their assistance in preparing this report. The dedication of these groups contributes to the System's continued stability.

Sincerely,

Susan Kane

Susan Kane
CEBS Executive Director

Organizational Chart

Board of Trustees – Eleven Members

Executive Director
Susan Kane

Accounting Specialist
Terry Mayes

Member Services Manager
Angela Johnson

Technology Manager
Randy Elam

Customer Service Representative
Robin Willis

Insurance Benefits Specialist*
Dawn Waters

Member Services Clerical Assistant
Monica Brewer

Denotes some work-flow supervision
*Dawn Waters retired as of May 1, 2023 and Monica Brewer assumed the role of Insurance Benefits Specialist.

Providers of Professional Services

Actuarial Services
Buck Global, LLC
Michael Ribble,
St. Louis, MO

Auditor
Anders Minkler Huber & Helm LLP
Jeanne M. Dee, CPA/CGMA
St. Louis, MO

Insurance Consultant
Gallagher Benefit Services, Inc.
(A division of Arthur J. Gallagher & Co.)
Mark Von Vogt
Boston, MA

Investment Consultant*
AndCo Consulting
Gwelda Swilley, Jeff Kuchta
Winter Park, FL

Legal Counsel
Hartnett Reyes-Jones, L.L.C.
Jamie Reyes-Jones
St. Louis, MO

Property Management
Intelica CRE
St. Louis, MO

Computer Programming Consultant
Jupiter Consulting Services, LLC
St. Louis, MO

Computer Networking Consultant
Blade Technologies, Inc.
St. Louis, MO

*A list of other investment professionals utilized can be found in the schedules of Brokerage Commissions Paid and Investment Management Fees and Expenses on pages 73-75

Financial Section

Independent Auditors' Report

ANDERS
CPAs + ADVISORS

Independent Auditors' Report

The Board of Trustees
Public School Retirement System of the City of St. Louis
St. Louis, Missouri

Opinion

We have audited the accompanying financial statements of Public School Retirement System of the City of St. Louis (the "System"), which comprise the statements of fiduciary net position as of December 31, 2022 and 2021, and the related statements of changes in fiduciary net position for the years then ended, and the related notes to the financial statements.

In our opinion, the financial statements referred to above present fairly, in all material respects, the fiduciary net position of Public School Retirement System of the City of St. Louis as of December 31, 2022 and 2021, and the changes in its fiduciary net position for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the System and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audits. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management for the Financial Statements

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

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the System'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.

Auditors' 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 auditors' report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with generally accepted 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 generally accepted auditing standards, we:

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

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

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that Management's Discussion and Analysis and the other required supplementary information, as listed in the Table of Contents, be presented to supplement the basic financial statements. Such information is the responsibility of management and although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audits 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.

Other Supplementary Information

Our audits were conducted for the purpose of forming an opinion on the System's basic financial statements. The other supplementary information on pages 42 - 48 is presented for purposes of additional analysis and is 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 financial statements. The information has been subjected to the auditing procedures applied in the audits 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 other supplementary information is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

Anders Minkler Huber & Helm LLP

April 18, 2023

Management's Discussion and Analysis Year Ended December 31, 2022

The Management Discussion and Analysis ("MD&A") for the Public School Retirement System of the City of St. Louis ("PSRSSTL") provides an overview of PSRSSTL financial activities for the fiscal year ended December 31, 2022. This MD&A is presented as required supplementary information to the financial statements and should be read in conjunction with the PSRSSTL financial statements, notes to the financial statements, required supplementary information, and other supplementary information.

The basic financial statements contained in this section of the MD&A consist of:

- The Condensed Statements of Fiduciary Net Position illustrate the System's assets, liabilities, and resulting fiduciary net position where Assets + Deferred Outflows - Deferred Inflows - Liabilities = Fiduciary Net Position held in trust for pension benefits available at the end of a fiscal year. These statements are a snapshot of the financial position of the System at specific points in time.
- The Condensed Statements of Changes in Fiduciary Net Position summarize the System's financial transactions throughout a fiscal year where Additions - Deductions = Change in Fiduciary Net Position. These statements support the change from the prior year's net position on the Statements of Fiduciary Net Position.
- The Notes to the Financial Statements are an integral part of these basic financial statements and contain information that helps better understand them.
- The required supplementary MD&A information, the Required Supplementary Information, and Other Supplementary Information following the Notes to the Financial Statements provide detailed historical information that is useful in evaluating the condition of the retirement plan administered by PSRSSTL.

The deferred outflow of resources on December 31, 2022, was $331,381, which was more than a 54% increase from the prior year. On December 31, 2021, the deferred outflow of resources was $214,501, which was more than a 55% increase from December 31, 2020. The deferred outflow of resources on December 31, 2020 was $480,318.

The deferred inflows of resources as of December 31, 2022 was $413,750, which is a more than 30% increase from the prior year. As of December 31, 2021, the deferred inflows of resources was $606,659, which was an increase of 30% from the prior year. The deferred inflows of resources on December 31, 2020 was $873,622.

The System's fiduciary net position was $817,867,979 at December 31, 2022, which represents a decrease of $154,959,677 from December 31, 2021. This decrease was due to investment returns during the 2022 fiscal year that were below the System's assumed rate of return. The performance results decreased the System's asset values for most investment categories at December 31, 2022.

The System's investment returns were -10.99% in fiscal year 2022, 12.4% in fiscal year 2021, and 8.9% in fiscal year 2020. The System's investment return in fiscal year 2022, when compared to fiscal year 2021, represents decreases in investment values for most asset categories while volatility continued in the financial markets during the one year period. Predicting conditions in the marketplace is always challenging yet the Board of Trustees stands behind a sound Asset Allocation Policy by remaining focused on active monitoring of its money managers and long-term investment objectives. The actuarial assumed rate of return set by the Board of Trustees changed to 7.0% in fiscal year 2021.

Additions to fiduciary net position were -$39.1 million, $173.2 million, and $136.3 million for fiscal years 2022, 2021, and 2020 respectively. The two highest additions to fiduciary net position in 2022 were employer contributions of $41.0 million and member contributions of $22.8 million. The main additions to fiduciary net position in 2021 were net investment income of $116.0 million and employer contributions of $41.2 million. The main additions to fiduciary net position during 2020 were $69.4 million of net investment income and $41.8 million of employer contributions.

Deductions from fiduciary net position were $115.9 million, $115.2 million and $114.6 million in fiscal years 2022, 2021 and 2020, respectively. Overall, most deductions, including operating expenses, decreased from the prior year, but the large increase in refunds to members drove the overall slight increase in deductions from fiduciary net position from 2022 to 2021. The increase in fiduciary net position between fiscal years 2021 and 2020 was due mainly to the increase in income in fiscal year 2021.

Financial Statements

The PSRSSTL financial report consists of two financial statements, (1) the Statements of Fiduciary Net Position, and (2) the Statements of Changes in Fiduciary Net Position. The Statements of Fiduciary Net Position provide details concerning PSRSSTL assets and liabilities other than long-term benefit obligations. However, PSRSSTL assets are the only source available to the System to pay pension benefits. The Statements of Changes in Fiduciary Net Position provide details regarding PSRSSTL financial activity during fiscal year 2022 that caused the change in fiduciary net position from fiscal year 2021 to fiscal year 2022.

Additionally, the financial report contains notes, supplementary information and actuarial data that provide further information to use while analyzing the System's financial statements.

Financial Analysis

On December 31, 2022, total assets and deferred outflow of resources of the System were $819,672,337. Total assets consisted of cash, receivables, investments and an office building. When compared to fiscal year 2021, total assets and deferred outflows in fiscal year 2022 decreased by 15.9%, or $155,269,386, and can be attributed to lower than expected investment returns.

On December 31, 2022, total liabilities and deferred inflow of resources of the System were $1,804,358. Total liabilities consisted of accounts payable and accrued expenses and net pension liability. Total liabilities and deferred inflows in fiscal year 2022, when compared to fiscal year 2021, decreased by $309,709, primarily because of the decrease in the System's deferred inflow of resources as required by GASB Statement No. 68.

On December 31, 2022, the fiduciary net position restricted for pensions was $817,867,979, a decrease of 15.9%, or $154,959,677, from fiscal year 2021.

On December 31, 2021, total assets and deferred outflow of resources of the System were $974,941,723. Total assets consisted of cash, receivables, investments and an office building. When compared to fiscal year 2020, total assets and deferred outflows in fiscal year 2021 increased by 6.3%, or $57,371,533, and can be attributed to higher than expected investment returns.

On December 31, 2021, total liabilities and deferred inflow of resources for the System were $2,114,067. Total liabilities consisted of accounts payable, accrued expenses, and net pension liability. Total liabilities and deferred inflows in fiscal year 2021, when compared to fiscal year 2020, decreased by $679,169, primarily because of the decrease in the deferred inflows of resources.

On December 31, 2021, the fiduciary net position restricted for pensions was $972,827,656, an increase of 6.3%, or $58,050,702, from fiscal year 2020.

Condensed Statements of Fiduciary Net Position

	FY 2022	FY 2021	FY 2020	FY 2022 % Change	FY 2021 % Change
Assets					
Cash	$ 9,892,457	$ 9,538,225	$ 9,863,612	3.7%	(3.3)%
Receivables	1,207,769	809,964	822,998	49.1%	(1.6)%
Investments	806,772,242	962,858,918	904,831,520	(16.2)%	6.4 %
Property and Building, net	1,468,488	1,520,115	1,571,742	(3.4)%	(3.3)%
Total Assets	819,340,956	974,727,222	917,089,872	(15.9)%	6.3 %
Deferred Outflows of Resources					
Deferred Outflows of Resources	331,381	214,501	480,318	54.5%	(55.3)%
Total Assets and Deferred Outflows of Resources	819,672,337	974,941,723	917,570,190	(15.9)%	6.3 %
Liabilities					
Accounts Payable and Accrued Expenses	676,761	818,796	867,927	(17.3)%	(5.7)%
Net Pension Liability	713,847	688,612	1,051,687	3.7 %	(34.5)%
Total Liabilities	1,390,608	1,507,408	1,919,614	(7.7)%	(21.5)%
Deferred Inflows of Resources					
Deferred Inflows of Resources	413,750	606,659	873,622	(31.8)%	(30.6)%
Total Liabilities and Deferred Inflows of Resources	1,804,358	2,114,067	2,793,236	(14.6)%	(24.3)%
Fiduciary Net Position	$ 817,867,979	$ 972,827,656	$ 914,776,954	(15.9)%	6.3 %

Revenues – Additions to Fiduciary Net Position

The assets available to finance PSRSSTL pension benefits are accumulated through receipt of employer and member contributions as well as through earnings on investments. For fiscal year 2022, employer contributions were approximately $41.0 million; member contributions were approximately $22.8 million; and investments lost a net amount of approximately $103.8 million. For fiscal year 2021, employer contributions were approximately $41.2 million; member contributions were approximately $20.9 million; and investments gained a net of approximately $116.0 million. For fiscal year 2020, employer contributions were approximately $41.8 million; member contributions were approximately $17.6 million; and investments gained a net of approximately $69.4 million.

Employer and member contributions combined increased by $1.7 million in fiscal year 2022 compared to $2.7 million in fiscal year 2021. These fluctuations in the contribution amounts are primarily due to the decrease of the employer contribution rate from 14.5% of covered compensation in fiscal year 2021 to 14.0% in fiscal year 2022, and the decrease from 15.50% of covered compensation in fiscal year 2019 to 15.00% in fiscal year 2020.

The PSRSSTL Actuary determines the amount of employer contributions required to maintain actuarial soundness of the System as part of the annual actuarial valuation report. However, through legislation passed in 2017, beginning with plan year 2018, the employer contribution rate was decreased to 16.0% of covered compensation. This rate will decrease by 0.5% in each future plan year until reaching a minimum of 9.0% and remain at 9.0% of covered compensation in all subsequent plan years.

An active member contribution rate of 5.00% of covered compensation was effective from July 1, 1999 through December 31, 2017. In 2018, through legislation passed in 2017, the active member contribution rate was increased to 5.50% of covered compensation for members hired before January 1, 2018. This rate will increase by 0.50% per year until reaching 9.00%. After that, the contribution rate will remain at 9.00% of covered compensation. The legislation requires new active members hired on or after January 1, 2018, to immediately contribute at a rate of 9.00%.

Net investment income was ($103.8 million), $116.0 million, and $69.4 million in fiscal years 2022, 2021 and 2020, respectively. These fluctuations in net investment income occurred because the investment earning rates were -10.99%, 12.4%, and 8.9% in fiscal years 2022, 2021 and 2020, respectively. Net investment income or (loss) reflects gross investment income or (loss) less investment expenses, such as investment manager, investment advisor and custodial fees.

Expenses – Deductions From Fiduciary Net Position

The primary deductions from fiduciary net position were payments of retirement benefits, survivor benefits, disability benefits, retiree healthcare subsidies and refunds to members who have retired or terminated employment. PSRSSTL operating expenses in fiscal year 2022 were approximately 0.16% of assets, while operating expenses were approximately 0.16% and 0.21% of assets for 2021 and 2020, respectively.

Condensed Statements of Changes in Fiduciary Net Position

	FY 2022	FY 2021	FY 2020	FY 2022 % Change	FY 2021 % Change
Additions					
Employer Contributions	$ 41,034,190	$ 41,226,981	$ 41,822,334	(0.5)%	(1.4)%
Member Contributions	22,794,266	20,880,189	17,607,279	9.2 %	18.6 %
Net Investment Income (loss)	(103,834,311)	116,054,836	69,466,228	(189.5)%	67.1 %
Rental Income	173,594	170,397	164,877	1.9 %	3.3 %
Other Income (loss)	744,900	(5,071,188)	7,264,633	(114.7)%	(169.8)%
Total Additions	(39,087,361)	173,261,215	136,325,351	(122.6)%	27.1 %
Deductions					
Retirement Benefits	98,918,142	99,362,102	99,692,129	(0.4)%	(0.3)%
Survivor Benefits	2,975,242	2,987,195	3,007,912	(0.4)%	(0.7)%
Disability Benefits	3,196,493	3,347,554	3,412,356	(4.5)%	(1.9)%
Health Care Subsidies	2,005,848	2,093,653	2,129,938	(4.2)%	(1.7)%
Operating Expenses	1,319,797	1,523,071	1,906,813	(13.3)%	(20.1)%
Refunds to members	7,456,794	5,896,938	4,438,938	26.5 %	32.8 %
Total Deductions	115,210,513	115,210,513	114,588,086	0.6 %	0.5 %
Change in Fiduciary Net Position	$(154,959,677)	$ 58,050,702	$ 21,737,265	(366.9)%	167.1 %

Financial Summary

For over 25 years, the PSRSSTL Investment Consultant has consistently calculated the System's investment performance; thereby, providing a valid basis on which performance can be compared with other public pension funds. For instance, the System's investments have provided consistent returns with cumulative PSRSSTL investment performance ranking in the top 50% of similar public pension plans for the last 25 years through the period ended December 31, 2021.

The fiduciary net position over this same time frame has fluctuated from a low of $780 million in fiscal year 1997 to a high of $1.15 billion in fiscal year 2007. At the end of fiscal year 2022, the fiduciary net position was $817.9 million. These fluctuations in the value of the System's fiduciary net position can be attributed to volatile financial market conditions, particularly due to the concerns over inflation and rising interest rates in the current year, and other volatile market changes in other years that caused substantial losses of investment returns in several fiscal years followed by large investment gains in other fiscal years.

Until fiscal year 2017, using the Governmental Accounting Standards Board ("GASB") calculation method implemented in 1992, the funded status of PSRSSTL remained stable by fluctuating within the range of 80.5% to 88.6% for 26 fiscal years. The funded ratio of a plan compares its assets to its liabilities; thereby, on an actuarial basis, measuring a plan's ability to fulfill future financial obligations to its members. The funded ratios of the PSRSSTL for fiscal years 2022, 2021 and 2020 were 73.6%, 78.7%, and 78.6%, respectively. The dip in the System's funded ratio beginning with fiscal year 2017 was primarily due to the change in the System's actuarial assumed rate of return (discount rate) from 8.0% to 7.5%. This assumed rate of return is now 7.0% effective in 2021.

The Board of Trustees and the PSRSSTL Actuary assume that the PSRSSTL will continue to be funded on a sound actuarial basis provided required member and employer contributions are made as recommended, a prudent and well-diversified Asset Allocation Policy remains in place, quality investment managers continue to be selected, and the financial markets dodge sustained volatility. However, during fiscal year 2017, the Missouri General Assembly, in cooperation with then Governor Eric Greitens, enacted changes to the System's calculations for the required annual employer and member contributions that jeopardize the System's actuarial soundness. Unless this legislation is overturned or replaced, these changes will have adverse effects on the System and its ability to meet future financial obligations to its members. It is assumed that the Board of Trustees will fulfill its fiduciary duty to the System's membership by continuing to take the appropriate legal action against the legislation.

Despite the volatility in the market in 2022, the System experienced an investment return lower than anticipated. Even though the return was not positive, the negative return was less than the return experienced by peers.

Requests for Information

This report is intended to provide the Board of Trustees, PSRSSTL members, and other interested parties a general overview of PSRSSTL financial matters. If any reader has questions about this report or needs additional financial information, contact the Public School Retirement System of the City of St. Louis.

Statements of Fiduciary Net Position December 31, 2022 and 2021

Assets	2022	2021
Cash	$ 9,892,457	$ 9,538,225
Receivables		
Accrued Interest and Dividends	634,538	567,667
Other Receivables	573,231	242,297
Total Receivables	1,207,769	809,964
Investments, at Fair Value		
Cash equivalents	42,341,245	40,980,094
Bonds		
U.S. Government and Agency Issues	27,967,198	28,800,098
Corporate	24,014,626	32,828,877
Foreign Investments (Bonds and Stocks)	82,019,025	94,236,786
Common and Preferred Stocks	183,586,017	230,724,806
Mutual and Co-Mingled Funds	300,787,261	402,073,191
Real Estate Partnerships	56,478,101	54,001,917
Limited Partnerships	89,578,769	79,213,149
Total Investments	806,772,242	962,858,918
Property and Building, net	1,468,488	1,520,115
Total Assets	819,340,956	974,727,222
Deferred Outflows of Resources		
Deferred Outflows of Resources Related to Pensions	331,381	214,501
Liabilities		
Accounts Payable and Accrued Expenses	676,761	818,796
Net Pension Liability	713,847	688,612
Total Liabilities	1,390,608	1,507,408
Deferred Inflows of Resources		
Deferred Inflows of Resources Related to Pensions	413,750	606,659
Net Position		
Net Position Restricted for Pensions	$817,867,979	$ 972,827,656

See notes to financial statements starting on page 21.

Statements of Changes in Fiduciary Net Position December 31, 2022 and 2021

	2022	2021
Additions		
Employer contributions		
St. Louis Public Schools	$ 26,692,454	$ 29,106,335
Sick Leave Conversion	43,815	109,983
Charter Schools	14,215,977	11,930,457
Retirement System	81,944	80,206
Plan Member Contributions		
Sick Leave Conversion	14,446,251	14,326,129
Charter Schools	8,302,053	6,512,595
Retirement System	45,962	41,465
	63,828,456	62,107,170
Investment Income (loss)		
Cash Equivalents	367,482	44,013
Bonds		
U.S. Government and Agency Issues	(4,761,512)	(200,968)
Corporate	(3,421,071)	1,245,389
Foreign Investments (Bonds and Stocks)	(12,723,638)	15,955,237
Common and Preferred Stocks	(40,066,025)	50,553,750
Mutual and Co-Mingled Funds	(47,535,456)	27,208,873
Limited Partnerships	5,279,783	18,182,960
Real Estate Partnerships	2,950,606	7,481,063
	(99,909,831)	120,470,317
Less Investment Expenses	3,924,480	4,415,481
Net Investment Income	(103,834,311)	116,054,836
Rental Income	173,594	170,397
Other Miscellaneous Income (loss)	744,900	(5,071,188)
Net Additions	(39,087,361)	173,261,215
Deductions		
Benefits Paid		
Retirement Benefits	98,918,142	99,362,102
Survivor Benefits	2,975,242	2,987,195
Disability Benefits	3,196,493	3,347,554
Health Care Subsidies	2,005,848	2,093,653
	107,095,725	107,790,504
Operating Expenses	1,319,797	1,523,071
Contribution Refunds Due to Death or Resignation	7,456,794	5,896,938
Total Deductions	115,872,316	115,210,513
Net Increase in Net Position	(154,959,677)	58,050,702
Net Position Restricted for Pensions, Beginning of Year	972,827,656	914,776,954
Net Position Restricted for Pensions, End of Year	$ 817,867,979	$ 972,827,656

See notes to financial statements starting on page 21.

Notes to Financial Statements December 31, 2022 and 2021

1. Description of System

General

The Public School Retirement System of the City of St. Louis (the "System") is the administrator of a cost-sharing multiple-employer defined benefit pension plan existing under provisions of the Revised Statutes of the State of Missouri (the "Statutes") to provide retirement benefits for all employees of the Board of Education of the City of St. Louis, of the Charter Schools located within the St. Louis School District, and of all employees of the System. The System issues a Comprehensive Annual Financial Report ("Annual Report"), a publicly available financial report that can be obtained at **www.psrsstl.org**.

An eleven member Board of Trustees (the "Board") is responsible for general administration of the System and investing the System's assets. Trustees are appointed by plan members and the Board of Education of the City of St. Louis.

Membership and Eligibility

All persons employed on a full-time basis are members of the System as a condition of employment. Membership statistics, as of the latest actuarial valuations, are as follows:

	January 1, 2022	January 1, 2021
Active Members	4,594	4,984
Inactive Members	4,256	3,560
Total Members Not Retired	8,850	8,544
Retired Members		
Service and survivors	4,144	4,161
Disability	219	225
	4,363	4,386
Total Membership	13,213	12,930

Vesting

Full vesting on termination of employment after at least five years of service is provided if contributions remain with the System. The full benefit is payable at age 65 or at a reduced early retirement benefit prior to age 65.

Funding Policy

The funding objective of the System is to meet long-term benefit promises through contributions that remain approximately level from year to year as a percentage of covered payroll.

Benefits

Upon retirement at age 65, or at any age if age plus years of credited service equals or exceeds 80 (Rule of 80), or 85 (Rule of 85) if terminated prior to August 28, 2017, members receive monthly payments for life or yearly benefits equal to years of credited service multiplied by 2% of average final compensation or 1.75% of average final compensation if hired on or after January 1, 2018, but not to exceed 60% of average final compensation. Early retirement can occur prior at age 60 with five years of service or at the age the Rule of 80 or Rule of 85 is satisfied. The service retirement allowance is reduced five ninths of one percent for each month of commencement prior to age 65 or the age at which the Rule of 80 (Rule of 85 if terminated prior to August 28, 2017) would have been satisfied had the employee continued working until that age, if earlier.

In lieu of the benefit paid over the lifetime of the participant, reduced benefit options are available for survivor and beneficiary payments.

Members are eligible, after accumulation of five years of credited service, for disability benefits prior to eligibility of normal retirement. Survivor benefits are available for beneficiaries of members who die after at least 18 months of active membership.

The System pays a portion of health insurance premiums for retirees under Section 169.476 of the Statutes, as an expense of the System.

Benefits are recorded when paid.

Return of Contributions Upon Death

If, after the death of a participant, no further monthly amounts are payable to a beneficiary under an optional form of payment or under the survivor benefit provisions, the participant's beneficiary shall be paid the excess, if any, of the participant's accumulated contributions over all payments made to, or on behalf of, the deceased participant.

Contributions by Participants

Active participants hired before January 1, 2018 contributed 7.50% and 7.00% of covered compensation for the years ended December 31, 2022 and 2021, respectively. This rate increases 0.50% per year until it reaches 9.00%. After this, the contribution rate will remain at 9.00% of covered compensation. Active participants hired on or after January 1, 2018 contribute 9.00% of covered compensation.

Accumulated contributions are credited at the rate of interest established by the Board of Trustees. The current crediting rate is 5.00%.

Contributions by Employers

The System's statutory required contribution rate applied to St. Louis Public Schools and the Retirement System was 14.50% and 15.00% of annual payroll for the years ended December 31, 2022 and 2021, respectively. For all other employers, the System's contractually required contribution rate was set at 14.00% and 14.50% of covered payroll for the years ended December 31, 2022 and 2021, respectively. These contribution rates shall be decreased by 0.50% in each subsequent year until reaching 9.00% of covered payroll. After this, the contribution rate will remain at 9.00% of covered payroll.

Contributions to the pension plan for System employees were $81,944 and $80,206 for the years ended December 31, 2022 and 2021, respectively.

Expenses

Operating expenses are paid out of investment income.

Investment Policy

The System's policy in regards to the allocation of invested assets is established and may be amended by the System's Board of Trustees. Investments are managed on a total return basis with a long-term objective of maintaining a fully funded status for the benefits provided through the pension plan. The following was the System's adopted asset allocation policy as of June 23, 2022:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Domestic Equity	31.5 %	7.5 %
International Equity	16.5 %	8.5 %
Domestic Bonds	16.6 %	2.5 %
International Bonds	8.4 %	3.5 %
Real Estate	7.0 %	4.5 %
Alternative Assets	20.0 %	5.9 %
Total/Average	100.0 %	5.9 %

The long-term real return expectations remove the 2.5 percent inflation rate embedded in each nominal return assumption.

The 5.0 percent target allocation to Global Equity is allocated 3.5 percent to Domestic Equity and 1.5 percent to International Equity.

The 9.0 percent target allocation to Global Multi-Sector Fixed Income is allocated 3.6 percent to Domestic Bonds and 5.4 percent International Bonds.

Alternative Assets include the target allocations to Global Asset Allocation, Hedge Funds, Private Equity and Private Debt. The Alternative Assets return assumption is based on an aggregation of multiple global asset class assumptions.

2. Summary of Significant Accounting Policies

Basis of Presentation and Accounting

The financial statements of the System have been prepared in accordance with the criteria established by the Governmental Accounting Standards Board ("GASB"), which is the source of authoritative accounting principles generally accepted in the United States of America ("GAAP"), as applied to governmental units. The System's financial statements are prepared using the accrual basis of accounting.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect certain reported amounts and disclosures. Accordingly, actual results could differ from those estimates.

Receivables

Receivables consist of pending interest and dividends payable on investments held at the end of the year. Other receivables are amounts due to the System from members or family members of a deceased member for overpaid benefits.

Investment Valuation and Income Recognition

Investments are reported at fair value. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. See Note 4 for discussion of fair value measurements. Short-term investments are reported at cost, which approximates fair value. Securities traded on national or international exchanges are valued at the latest reported sales price at current exchange rates.

Limited Partnerships

Fair values of the limited partnership investments are based on valuations of the underlying companies of the limited partnerships as reported by the general partner. Certain limited partnerships reflect values on a quarter lag basis due to the nature of those investments and the time it takes to value them.

Alternative Investments

For alternative investments where no readily ascertainable fair value exists, management, in consultation with their investment advisors, values these investments in good faith based upon audited financial statements, cash flow analysis, purchase and sales of similar investments, other practices used within the industry, or other information provided by the underlying investment advisors. The estimated fair value of these investments may differ significantly from values that would have been used had a ready market existed.

Investment Income

Investment income includes: realized gains (losses), unrealized appreciation (depreciation), dividends, interest, and other investment income. Purchases and sales of securities are recorded on a trade-date basis. Interest income is recorded on the accrual basis. Dividends are recorded on the ex-dividend date.

Investment Expenses

Investment expenses consist of investment manager, investment advisor, limited partnership, and custodial bank fees.

Fair Value Measurements

The System follows guidance issued by the GASB on fair value measurements, which establishes a framework for measuring fair value, clarifies the definition of fair value within that framework, and expands disclosures about the use of fair value measurements. This guidance applies whenever fair value is the applicable measurement. The three general valuation techniques used to measure fair value are the market approach, cost approach, and income approach.

Furniture and Equipment

Acquisitions of furniture and equipment are charged to operating expense when purchased. The value of furniture and equipment owned by the System is deemed to be immaterial in relation to the total assets of the System.

Property and Building

The System records property, building, and related improvements at cost while expenditures for normal repairs and maintenance, which do not extend the useful life of the assets, are charged to operations as incurred. The System uses the straight-line method for the depreciation of the building and improvements over the estimated life of 40 years.

Long-Lived Asset Impairment

The System evaluates the recoverability of the carrying value of long-lived assets whenever events or circumstances indicate the carrying amount may not be recoverable. If a long-lived asset is tested for recoverability and the undiscounted estimated future cash flows expected to result from the use and eventual disposition of the asset are less than the carrying amount of the asset, the asset cost is adjusted to fair value and an impairment loss is recognized as the amount by which the carrying amount of a long-lived asset exceeds its fair value. The System does not believe any impairment exists as of December 31, 2022 and 2021.

Deferred Outflows and Inflows of Resources

In addition to assets and liabilities, the statements of fiduciary net position will sometimes include separate sections for deferred outflows and inflows of resources. Deferred outflows of resources represent a consumption of net assets that applies to future periods and deferred inflows of resources represent the acquisition of net assets that applies to future periods. The System has deferred outflows and inflows in the statements of fiduciary net position that relate to pension related deferrals required by GASB Statement No. 68.

Pensions

Pension-related expenses, liabilities, deferred outflows of resources, and deferred inflows of resources have been determined on the same basis as they are reported by the System. For this purpose, benefit payments are recognized when due and payable in accordance with the benefit terms.

Subsequent Events

The System has evaluated subsequent events through April 18, 2023, the date the financial statements were available to be issued.

Recent Accounting Pronouncements

The following GASB Statements are effective for various reporting periods beginning after December 15, 2022.

- GASB Statement No. 94: *Public-Private and Public-Public Partnerships and Availability Payment Arrangements*
- GASB Statement No. 96: *Subscription-Based Information Technology Arrangements*
- GASB Statement No. 99: *Omnibus 2022*
- GASB Statement No. 100: *Accounting Changes and Error Corrections*
- GASB Statement No. 101: *Compensated Balances*

Based on preliminary analysis, the System does not expect the new guidance to have a significant impact on its financial statements.

3. Investments

At December 31, 2022 and 2021, investments consisted of the following:

2022	**Fair Value**	**Cost**
Cash Equivalents	$ 42,341,245	$ 42,341,245
Bonds		
U.S. Government and Agency Issues	27,967,198	31,627,324
Corporate	24,014,626	29,204,790
Foreign Investments (Bonds and Stocks)	82,019,025	83,030,978
Common and Preferred Stocks	183,586,017	157,451,421
Mutual and Co-Mingled Funds	300,787,261	207,776,469
Real Estate Partnerships	56,478,101	71,057,149
Limited Partnerships	89,578,769	85,428,316
	$806,772,242	$707,917,692
2021		
Cash Equivalents	$ 40,980,094	$ 40,980,094
Bonds		
U.S. Government and Agency Issues	28,800,098	29,576,387
Corporate	32,828,877	34,292,287
Foreign Investments (Bonds and Stocks)	94,236,786	79,731,976
Common and Preferred Stocks	230,724,806	159,315,378
Mutual and Co-Mingled Funds	402,073,191	261,297,717
Real Estate Partnerships	54,001,917	69,463,204
Limited Partnerships	79,213,149	71,822,292
	$962,858,918	$746,479,335

4. Fair Value Measurements

The framework for measuring fair value establishes a fair value hierarchy which prioritizes the inputs to valuation techniques used to measure fair value into Levels 1, 2, and 3. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3). The three levels of the fair value hierarchy are described as follows:

Level 1 Inputs to the valuation methodology are unadjusted quoted prices for identical instruments in active markets.

Level 2 Inputs to the valuation methodology include quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in inactive markets, inputs other than quoted prices that are observable for the instrument, or inputs that are derived principally from or corroborated by observable market data by correlation or other means.

Level 3 Inputs to the valuation methodology are unobservable and significant to the fair value measurement.

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

The fair value amounts presented in the tables are intended to permit reconciliation of the fair value hierarchy to the line items presented in the statements of fiduciary net position. The instrument's fair value measurement level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. Valuation techniques maximize the use of relevant observable inputs and minimize the use of unobservable inputs.

Carrying amounts of certain financial instruments such as cash, receivables, accounts payable, and accrued expenses approximate fair value due to their short maturities or because the terms are similar to market terms. There have been no changes in the methodologies used at December 31, 2022 and 2021.

Following is a description of the valuation methodologies used for investments measured at fair value.

Level 1 Investments consist of publicly traded common and preferred stocks and mutual funds. These investments are valued using the closing price reported on the active market on which the individual securities are traded.

Level 2 Investments consist of corporate and foreign bonds and stocks, U.S. government securities and agency issues, and cash equivalent accounts. These securities are valued using pricing models maximizing the use of observable inputs for similar securities. This includes basing value on yields currently available on comparable securities of issuers with similar credit ratings.

Level 3 Investments consist of real estate partnerships and limited partnerships. Real estate partnerships are valued at fair value as determined by the general partner. Limited partnerships are valued based on valuations of the underlying companies of the limited partnerships as reported by the general partner.

Investments also consist of co-mingled funds. These securities are valued at the NAV based on shares held by the System at year-end. The NAV is used as a practical expedient to estimate fair value.

The preceding methods described may produce a fair value calculation that may not be indicative of net realizable value or reflective of future fair values. Furthermore, although the System believes its valuation methods are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different fair value measurement at the reporting date.

The following table presents the fair value measurements of instruments recognized in the accompanying statements of fiduciary net position measured at fair value on a recurring basis and the level within the fair value hierarchy in which the fair value measurements are categorized at December 31, 2022 and 2021:

2022		**Fair Value Measurements**		
	Total	**Level 1**	**Level 2**	**Level 3**
Cash Equivalents	$ 42,341,245	$ -	$ 42,341,245	$ -
U.S. Government and Agency Issues	27,967,198	-	27,967,198	-
Corporate Bonds	24,014,626	-	24,014,626	-
Foreign Investments	82,019,025	-	82,019,025	-
Common and Preferred Stocks	183,586,017	183,586,017	-	-
Mutual Funds	195,428,613	195,428,613	-	-
Real Estate Partnerships	56,478,101	-	-	56,478,101
Limited Partnerships	89,578,769	-	-	89,578,769
Total Assets in Fair Value Hierarchy	701,413,594	$379,014,630	$176,342,094	$146,056,870
Investments Measured at NAV	105,358,648			
	$806,772,242			
2021				
Cash Equivalents	$40,980,094	$ -	$ 40,980,094	$ -
U.S. Government and Agency Issues	28,800,098	-	28,800,098	-
Corporate Bonds	32,828,877	-	32,828,877	-
Foreign Investments	94,236,786	-	94,236,786	-
Common and Preferred Stocks	230,724,806	230,724,806	-	-
Mutual Funds	262,128,076	262,128,076	-	-
Real Estate Partnerships	54,001,917	-	-	54,001,917
Limited Partnerships	79,213,149	-	-	79,213,149
Total Assets in Fair Value Hierarchy	822,913,803	$492,852,882	$196,845,855	$133,215,066
Investments Measured at NAV	139,945,115			
	$962,858,918			

Investments measured at fair value based on NAV per share practical expedient as of December 31, are as follows:

	Fair Value	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
December 31, 2022				
Co-mingled Funds	$ 105,358,648	N/A	Daily	30 days
December 31, 2021				
Co-mingled Funds	$ 139,945,115	N/A	Daily	30 days

The following table provides a summary of changes in fair value of the System's Level 3 assets for the years ended December 31, 2022 and 2021, as follows:

	Limited Partnerships	Real Estate Partnerships	Total
December 31, 2020	$62,928,944	$46,928,887	$ 109,857,831
Realized Gains	6,231,172	326,398	6,557,570
Unrealized Gains (losses)	9,540,952	5,239,365	14,780,317
Purchases, Sales, Issuances, and Settlements (net)	(1,917,327)	-	(1,917,327)
Investment Income, net	2,429,408	1,915,300	4,344,708
Management fees	-	(408,033)	(408,033)
December 31, 2021	$79,213,149	$54,001,917	$ 133,215,066
Realized Gains	3,638,927	29,379	3,668,306
Unrealized Gains (losses)	(868,982)	882,239	13,257
Purchases, Sales, Issuances, and Settlements (net)	5,178,501	-	5,178,501
Investment Income, net	2,417,174	2,038,987	4,456,161
Management fees	-	(474,421)	(474,421)
December 31, 2022	$ 89,578,769	$ 56,478,101	$146,056,870

All assets have been valued using a market approach, except for Level 3 assets. Fair values in Level 2 are calculated using quoted market prices for similar assets in markets that are not active. The following table describes the valuation technique used to calculate fair values for assets in Level 3. Annually, management determines if the current valuation techniques used in the fair value measurements are still appropriate and evaluates and adjusts the unobservable inputs used in the fair value measurements based on third-party information. There were no changes in the valuation techniques during the current year.

	Fair Value	Valuation Technique	Unobservable Inputs
December 31, 2022			
Limited Partnerships	$89,578,769	Basis in LLC	Undistributed Income
Real Estate Partnerships	$56,478,101	Basis in LLC	Undistributed Income
December 31, 2021			
Limited Partnerships	$79,213,149	Basis in LLC	Undistributed Income
Real Estate Partnerships	$54,001,917	Basis in LLC	Undistributed Income

The significant unobservable inputs used in the fair value measurement of the System's investments in limited partnerships are the original cost of the investment in the partnership plus the cumulative net income of the partnership through the end of the most recent fiscal year. Significant increases or decreases in the partnership's cumulative net income as of December 31, 2022 and 2021 could result in a significantly higher or lower fair value measurement.

5. Risks and Uncertainties

Custodial Credit Risk

Financial instruments that potentially subject the System to concentrations of custodial credit and market risk consist principally of cash and investments. The System places its temporary cash investments with major financial institutions. At December 31, 2022, the System had approximately $10,736,000 in cash on deposit at US Bank. These balances were insured by the Federal Deposit Insurance Corporation ("FDIC") for $250,000. The remaining balances are collateralized by US Bank's assets held jointly in the name of US Bank, N.A. and the System, held by the Federal Home Loan Bank of Cincinnati as Trustee. Regulations require that government entities, in case of bank failure, have collateral to cover losses that could exceed the FDIC limit of $250,000. The fair value of the collateralized securities at December 31, 2022 was $11,000,000. A significant portion of the System's investments are held in trust by US Bank of St. Louis, N.A.

On December 28, 2022 and December 30, 2021, the System received $26,736,269 and $29,216,318, respectively, from the St. Louis Board of Education for the 2022 and 2021 St. Louis Public Schools' annual regular pension contribution and sick leave conversion contribution and held it in a cash equivalents account until investment allocations were implemented.

The System invests in various investment securities. Investment securities are exposed to various risks such as interest rate, market and credit risks. Due to the level of risk associated with certain investment securities, it is at least reasonably possible that changes in the values of investment securities will occur in the near term and that such change could materially affect the amounts reported in the accompanying statements of fiduciary net position.

Concentration of Credit Risk

At December 31, 2022 and 2021, the System had the following concentrations, defined as investments (other than those issued or guaranteed by the U.S. Government) in any one organization that represent 5% or more of net position held in trust for pension benefits.

Investments	Fair Value	Percentage of Total Net Position
2022		
UBS Realty Investors, LLC	$56,478,101	6.9%
Causeway	$48,057,015	5.9%
Fidelity Institutional Asset Mgmt	$42,377,586	5.2%
Mellon Capital Management	$42,886,573	5.2%
Edgar Lomax Company	$73,437,780	9.0%
2021		
UBS Realty Investors, LLC	$54,001,917	5.6%
Causeway	$51,663,366	5.3%
Fidelity Institutional Asset Mgmt	$60,688,510	6.2%
Edgar Lomax Company	$73,418,532	7.6%

Credit Risk of Debt Securities

Investor Services ("Moody's") and the ratings are presented using the Moody's rating scale. The System's policy to limit credit risk is that the overall average quality of each high-grade domestic fixed income portfolio shall be AA or better and the average quality rating of securities held in a domestic high-yield portfolio shall be B or better. The overall average quality of each global fixed income portfolio shall be A or better. Non-rated issues are allowed as long as the quality is sufficient to maintain the overall average rating noted.

As of December 31, 2022, the System held the following fixed income investments with respective Moody's quality ratings or equivalent rating. Obligations of the U.S. Government or obligations explicitly guaranteed by the U.S. Government are not considered to have credit risk. Foreign investments not considered to have credit risk such as stocks and cash equivalents are not included in the following:

Quality Rating	Corporate Bonds	Foreign Government and Corporate Obligations	U.S. Government and Agency Issues	Total
Aaa	$ 2,626,479	$ 164,124	$ 14,067,812	$ 16,858,415
Aa1	12,195	-	-	12,195
Aa2	137,023	-	-	137,023
Aa3	235,212	-	370,906	606,118
A1	682,121	-	-	682,121
A2	1,138,747	-	-	1,081,823
A3	520,214	-	141,816	662,030
Baa1	995,503	86,320	-	1,396,510
Baa2	2,163,784	-	-	2,163,784
Baa3	3,410,262	474,295	-	3,884,557
Ba1	884,832	35,190	-	920,022
Ba2	397,921	-	-	397,921
Ba3	305,484	116,157	-	421,641
B1	305,512	61,844	-	367,356
B2	146,559	75,287	-	221,846
B3	170,958	12,712	-	183,670
Caa1	43,060	-	-	43,060
Caa2	11,266	-	-	11,266
Not rated	9,827,494	1,474,420	13,386,664	24,688,578
Total	$24,014,626	$,500,349	$27,967,198	$54,482,173

As of December 31, 2021, the System held the following fixed income investments with respective Moody's quality ratings or equivalent rating.

Quality Rating	Corporate Bonds	Foreign Government and Corporate Obligations	U.S. Government and Agency Issues	Total
Aaa	$ 3,175,002	$ 209,655	$ 15,345,754	$ 18,730,411
Aa1	19,416	-	-	19,416
Aa2	147,017	-	-	147,017
Aa3	343,631	-	459,424	803,055
A1	868,381	-	-	868,381
A2	1,300,314	-	-	1,300,314
A3	790,829	-	139,376	930,205
Baa1	1,267,648	76,755	52,107	1,396,510
Baa2	2,401,794	-	-	2,401,794
Baa3	4,479,614	325,109	-	4,804,723
Ba1	912,070	216,916	-	1,128,986
Ba2	648,559	41,276	-	689,835
Ba3	702,823	147,929	-	850,752
B1	443,801	43,453	-	487,254
B2	177,584	87,448	-	265,032
B3	516,455	41,566	-	558,021
Caa1	74,324	-	-	74,324
Caa2	24,803	-	-	24,803
Caa3	-	8,720	-	8,720
Ca	38,534	-	-	38,534
Not rated	14,496,278	2,139,245	12,803,437	29,438,960
Total	$32,828,877	$3,338,072	$28,800,098	$64,967,047

Foreign Currency Risk

Foreign currency risk is the risk that changes in exchange rates will adversely impact the fair value of an investment. The System does not have a formal policy to limit foreign currency risk. The System's exposure to foreign currency risk in U.S. Dollars as of December 31, 2022 is as follows:

Currency	Cash Equivalents	Equities	Total
British Pound Sterling	$54,255	$ 117,211,264	$ 17,265,519
Canadian Dollar	3,451	1,847,275	1,850,726
Danish Krone	-	380,027	380,027
Euro	59,550	25,785,754	25,845,304
Hong Kong Dollar	-	2,668,961	2,668,961
Japanese Yen	19,520	5,430,935	5,450,455
Korean Won	-	1,887,099	1,887,099
Swedish Krona	-	769,147	769,147
Swiss Franc	2,736	5,091,638	5,094,374
Thai Baht	-	315,229	315,229
	$139,512	$61,387,329	$61,526,841
Foreign Investment Denominated in U.S. Dollars			20,631,696
			$82,158,537

The System's exposure to foreign currency risk in U.S. Dollars as of December 31, 2021 is as follows:

Currency	Cash Equivalents	Equities	Total
British Pound Sterling	$1	$ 17,023,264	$ 17,023,265
Canadian Dollar	6	2,042,721	2,042,727
Danish Krone	-	344,448	344,448
Euro	-	29,475,939	29,475,939
Hong Kong Dollar	-	1,962,650	1,962,650
Japanese Yen	-	6,397,970	6,397,970
Korean Won	-	2,666,924	2,666,924
Mexican Peso	-	193,443	193,443
Swedish Krona	-	1,106,422	1,106,422
Swiss Franc	-	8,852,379	8,852,379
	$7	$70,066,160	$ 70,066,167
Foreign Investment Denominated in U.S. Dollars			24,170,619
			$94,236,786

Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. The System's fixed income investments are managed in accordance with policies established by the Board that are specific as to the degree of interest rate risk that can be taken. The System's policies established by the Board manage the interest rate risk within the portfolio using various methods, including effective duration, option adjusted duration, average maturity, and segmented time distribution, which reflects total fair value of investments maturing during a given time period. The System does not have a specific investment policy on interest rate risk. However, domestic bond managers are limited to seven years average duration and global bond managers cannot differ from the passive benchmark by more than two years as a means of managing its exposure to fair value losses arising from increasing interest rates.

The segmented time distribution of the various investment types of the System's debt securities at December 31, 2022 is as follows:

Type	2022 Fair Value	Less Than 1 Year	1 to 5 Years	6 to 10 Years	More Than 10 Years
Corporate Bonds	$24,014,626	$46,080	$ 7,301,162	$ 6,353,403	$ 10,313,981
Foreign Government and Corporate Obligations	2,500,349	-	678,147	697,398	1,124,804
U.S. Government and Agency Issues	27,967,198	4,871	5,402,114	3,034,226	19,525,987
Total	$54,482,173	$ 50,951	$13,381,423	$10,085,027	$30,964,772

The segmented time distribution of the various investment types of the System's debt securities at December 31, 2021 is as follows:

Type	2021 Fair Value	Less Than 1 Year	1 to 5 Years	6 to 10 Years	More Than 10 Years
Corporate Bonds	$32,828,877	$165,965	$ 9,318,485	$ 9,115,759	$ 14,228,668
Foreign Government and Corporate Obligations	3,338,072	-	884,565	800,698	1,652,809
U.S. Government and Agency Issues	28,800,098	5,253	5,666,918	4,323,844	18,804,083
Total	$64,967,047	$ 171,218	$15,869,968	$14,240,301	$34,685,560

6. Property and Building

Property and building as of December 31, consists of:

	2022	2021
Land	$ 229,451	$ 229,451
Building	2,065,061	2,065,061
Tenant Improvements	158,120	158,120
	2,452,632	2,452,632
Less accumulated depreciation	984,144	932,517
Property and Building, net	$1,468,488	$ 1,520,115

Depreciation expense totaled $51,627 for each of the years ended December 31, 2022 and 2021.

7. Occupancy

The System occupies offices in a building it owns. Occupancy expenses for the years ended December 31, 2022 and 2021 were $40,532 and $51,926, respectively.

The System leases a portion of its building to an unrelated party. The current lease agreement extends the term to May 2024 with an annual rent of $177,288. Rental income received for the years ended December 31, 2022 and 2021 totaled $173,594 and $170,397, respectively.

8. Tax Status of Plan

The Internal Revenue Service has determined and informed the System by a letter dated December 15, 2016, that the System and related trust and amendments are designed in accordance with the applicable sections of the Internal Revenue Code ("IRC"). Management believes that the System is designed and is currently being operated in compliance with the applicable requirements of the IRC and therefore believes that the System is qualified and the related trust is tax-exempt.

9. Retirement Plan of the System

Pension Liabilities, Pension Expense, Deferred Outflows and Deferred Inflows of Resources Related to Pensions

At December 31, 2022 and 2021, the System reported a liability of $713,847 and $688,612, respectively, as its proportionate share of the net pension liability. The net pension liability was measured as of December 31, 2021 and 2020, respectively, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of that date.

The System's proportionate share of the net pension liability was based on the System's actual employer's compensation relative to the actual compensation of all participating employers for the System's plan years ended December 31, 2021 and 2020. At December 31, 2021 and 2020, the System's portion was 0.24% and 0.19%, respectively.

For the year ended December 31, 2022, the System recognized pension expense of $(233,541) consisting of the current year contribution, pension liability adjustment, and amortization of deferred outflows and inflows of resources. At December 31, 2022, the System reported deferred outflows and inflows of resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference Between Expected and Actual Experience	$ 4,019	$ 37,612
Changes in Assumptions	19,927	198,933
Net Difference Between Projected and Actual Earnings on Pension Plan Investments	-	116,385
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	225,492	60,820
System Contributions Subsequent to the Measurement Date of December 31, 2020	81,943	-
Total	$331,381	$413,750

For the year ended December 31, 2021, the System recognized pension expense of $13,612 consisting of the current year contribution, pension liability adjustment, and amortization of deferred outflows and inflows of resources. At December 31, 2021, the System reported deferred outflows and inflows of resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference Between Expected and Actual Experience	$ 4,917	$ 9,076
Changes in Assumptions	-	352,146
Net Difference Between Projected and Actual Earnings on Pension Plan Investments	-	37,316
Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	47,316	126,059
System Contributions Subsequent to the Measurement Date of December 31, 2019	80,206	-
Total	$132,439	$524,597

The System's total pension liability in the December 31, 2021 and 2020 actuarial valuation was determined using the actuarial assumptions disclosed in Note 12.

Deferred outflows of resources of $81,943 resulting from the System's contributions subsequent to the measurement date will be recognized as a reduction of the net pension liability in the year ended December 31, 2023. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense in the System's year ending December 31 as follows:

Year	Amount
2023	$(177,632)
2024	(19,461)
2025	12,991
2026	19,790
Total	$(164,312)

Discount Rate

The discount rate used to measure the total pension liability was 7.00 and 7.50 percent for the years ended December 31, 2022 and 2021, respectively. The projection of cash flows used to determine the discount rate assumed that System contributions will continue to follow the funding policy established prior to the year ended December 31, 2022. Based on those assumptions, the System's contributions will continue to follow the current funding policy.

Sensitivity of the System's Proportionate Share of the Net Pension Liability to Changes in the Discount Rate

The following presents the System's proportionate share of the net pension liability calculated using the discount rate of 7.00 and 7.50 percent for the years ended December 31, 2022 and 2021, respectively, as well as what the System's proportionate share of the net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

System's Proportionate Share of the Net Pension Liability	1% Decrease (6.00%)	Current Discount Rate (7.00%)	1% Increase (8.00%)
Year Ended December 31, 2022	$1,008,266	$713,847	$460,866
Year Ended December 31, 2021	$ 924,557	$688,612	$492,888

10. Annual Money-Weighted Rate of Return

The annual money-weighted rate of return was 5.99 percent and 6.13 percent for the years ended December 31, 2022 and 2021, respectively. The annual money-weighted rate of return expresses investment performance, net of investment expense, and adjusted for the changing amounts actually invested.

11. Funding Status

The funded status as of January 1, which is the most recent actuarial date is as follows:

	2022	2021
Actuarial value of assets	$943,201,853	$894,251,149
Actuarial accrual liability (AAL)	$1,279,847,074	$1,136,451,964
Unfunded AAL (UAAL)	$336,645,221	$242,200,815
Funded ratio	73.7 %	78.7 %
Annual covered payroll	$259,440,417	$264,676,845
UAAL as a percentage of payroll	129.8 %	91.5 %

The funded ratio decreased by 5.0% from the previous year.

Additional information regarding assumptions used in the actuarial valuation is as follows:

	January 1, 2022	January 1, 2021
Actuarial Cost Method	Entry age normal	Frozen entry age
Rate of Investment Return	7.00%, net of expenses	7.50%, net of expenses
Participant Account Interest Crediting Rate	5.00%	5.00%
Turnover or Withdrawal Rates	Various by age and year of membership based on actual experience	Various by age and year of membership based on actual experience
Mortality and Death Rates	a) PubG-2010 (Below Median) Mortality Table, amount weighted, projected fully generationally using projection scale MP- 2021. The mortality assumption for retired participants receiving benefits increased by 2% for males and 10% for females. b) PubG-2010 (Below Median) Mortality Table, amount weighted, projected fully generationally using projection scale MP- 2021.	a) RP-2014 Combined Healthy Mortality table (rolled back to 2006) for active Members, and deferred vested Members, projected fully generationally using projection scale MP-2015. b) RP-2014 Combined Healthy Mortality Table (rolled back to 2006) for Inactive (In Receipt) Members adjusted by an additional 10% to account for the higher mortality experienced by the Plan, projected fully generationally using projection scale MP-2015.
Disability Rates	PubT/G-2010 Mortality Disability Table, amount weighted, projected fully generationally using projection scale MP-2021.	RP-2014 Disability Mortality Table (rolled back to 2006), projected fully generationally using projection scale MP-2015
Rates of Retirement Between the Ages of 55 and 70	Various based on actual experience of the System	Various based on actual experience of the System
Rate of Salary Increases	Salaries are assumed to increase at the rate of 5.0% per year for the first 5 years of employment and at the rate of 3.5% per year thereafter	Salaries are assumed to increase at the rate of 5.0% per year for the first 5 years of employment and at the rate of 3.5% per year thereafter
Asset Valuation Method	The smoothed market value method	The assumed yield method of valuing assets

Effective January 1, 2022, amortization is based on a fifteen (15) year closed, level dollar amount. All future changes in the accrued liability due to amendments, experience gains and losses, and assumption changes are amortized over a 15-year closed, layered method.

12. Employers' Net Pension Liability

The components of the net pension liability (the retirement system's liability determined in accordance with GASB Statement No. 67 less the fiduciary net position) as of December 31, 2022, are shown in the Schedule of Net Pension Liability below.

Actuarial valuation of an ongoing plan involves estimates of the reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment mortality and future salary increases. Amounts determined regarding the net pension liability are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future. The last experience study was performed in 2021. The net pension liability as of December 31, 2022 and 2021 is $454,771,409 and $296,612,468, respectively, based on actuarial valuations. The 2022 valuation was performed as of June 2021, with a measurement date of January 1, 2022, rolled forward and updated to December 31, 2022 using generally accepted actuarial procedures. The 2021 valuation was performed as of June 2020, with a measurement date of January 1, 2021, rolled forward and updated to December 31, 2021 using generally accepted actuarial procedures.

Schedule of Net Pension Liability

The components of the net pension liability of all participating employers at December 31, 2022 and 2021, are as follows:

	2021	2020
Total Pension Liability	$1,272,639,388	$1,269,440,124
Less: Fiduciary Net Position	817,867,979	972,827,656
Employers' Net Pension Liability	$ 454,771,409	$ 296,612,468
Plan Net Position as a Percentage of Total Pension Liability	64.27 %	76.63 %

Sensitivity of Net Pension Eligibility to Changes in the Discount Rate

The following presents the net pension liability at December 31, 2022, calculated using the discount rate of 7.00 percent, as well as what the net pension liability would have been if it were calculated using a discount rate that is 1-percentage point lower or 1-percentage-point higher than the current rate:

Net Pension Liability – 2022	1% Decrease (6.00%)	Current Discount Rate (7.00%)	1% Increase (8.00%)
	$576,965,826	$454,771,409	$351,369,418

The following presents the net pension liability at December 31, 2021, calculated using the discount rate of 7.00 percent, as well as what the net pension liability would have been if it were calculated using a discount rate that is 1-percentage point lower or 1-percentage-point higher than the current rate:

Net Pension Liability – 2021	1% Decrease (6.00%)	Current Discount Rate (7.00%)	1% Increase (8.00%)
	$420,110,630	$296,612,468	$192,027,293

The projection of cash flows used to determine the discount rate assumed that System contributions will continue to follow the current funding policy. Based on those assumptions, the System's contributions will continue to follow the current funding policy.

Under GASB Statement No. 68, employers participating in the plan would recognize a proportionate share of total pension expense of ($31,972,935) and ($97,039,617) for their fiscal years beginning after June 15, 2022 and 2021, respectively.

Schedules of Changes of Employer Net Pension Liability

for the Years Ended December 31,
Required Supplementary Information

	2022	2021	2020	2019
Total Pension Liability				
Service Cost	$ 21,576,380	$ 21,761,352	$ 23,374,806	$ 40,762,465
Interest	86,429,627	93,253,627	92,951,028	78,546,085
Changes of Benefit Terms	(1,389,661)	-	-	-
Difference Between Expected	-			
and Actual Experience	11,135,437	(22,232,218)	3,525,167	(631,432)
Changes of Assumptions	-	11,880,738	-	(392,633,162)
Benefit Payments	(114,552,519)	(113,687,442)	(112,681,273)	(113,101,170)
Net Change in Total Pension Liability	$3,199,264	(9,023,943)	7,169,728	(387,057,214)
Total Pension Liability – Beginning	1,269,440,124	1,278,464,067	1,271,294,339	1,658,351,553
Total Pension Liability – Ending	$1,272,639,388	$1,269,440,124	$1,278,464,067	$ 1,271,294,339
Plan Fiduciary Net Position				
Employer Contributions	$ 41,034,190	$ 41,226,981	$ 41,822,334	$ 43,902,706
Employee Contributions	22,794,266	20,880,189	17,607,279	17,019,685
Net Investment Income	(102,915,817)	111,154,045	76,895,738	127,614,501
Benefit Payments Including				
Refunds of Employee Contributions	(114,552,519)	(113,687,442)	(112,681,273)	(113,101,170)
Administrative Expense	(1,319,797)	(1,523,071)	(1,906,813)	(1,590,013)
Other	-	-	(255,913)	-
Net Change in Plan Fiduciary Net Position	(154,959,677)	58,050,702	21,481,352	73,845,709
Plan Fiduciary Net Position – Beginning	972,827,656	914,776,954	893,295,602	819,449,893
Plan Fiduciary Net Position – Ending	$ 817,867,979	$ 972,827,656	$ 914,776,954	$ 893,295,602
Net Pension Liability – Ending	$ 454,771,409	$ 296,612,468	$ 363,687,113	$ 377,998,737
Total Pension Liability	$1,272,639,388	$1,269,440,124	$1,278,464,067	$ 1,271,294,339
Less: Plan Fiduciary Net Position	817,867,979	972,827,656	914,776,954	893,295,602
Employer Net Pension Liability	$ 454,771,409	$ 296,612,468	$ 363,687,113	$ 377,998,737
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	64.27 %	76.63 %	71.55 %	70.27 %
Covered Payroll	$ 259,440,417	$ 264,676,845	$ 272,973,377	$ 263,772,380
Employer Net Pension Liability as a Percentage of Covered Payroll	175 %	112 %	133 %	143 %

*Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

The blended rate was changed from 4.78 percent to 7.50 percent at December 31, 2019.

The blended rate was changed from 7.50 percent to 7.00 percent at December 31, 2021.

	2018	2017	2016	2015
Total Pension Liability				
Service Cost	$ 41,332,913	$ 19,950,269	$ 19,260,511	$ 19,136,245
Interest	79,257,906	92,276,865	92,358,115	93,242,628
Changes of Benefit Terms	-	18,979,978	-	-
Difference Between Expected and Actual Experience	(21,350,805)	(8,215,370)	6,392,416	(10,065,347)
Changes of Assumptions	-	397,218,720	70,532,232	-
Benefit Payments	(114,010,652)	(112,950,471)	(113,608,409)	(113,384,329)
Net Change in Total Pension Liability	(14,770,638)	407,259,991	74,934,865	(11,070,803)
Total Pension Liability – Beginning	1,673,122,191	1,265,862,200	1,190,927,335	1,201,998,138
Total Pension Liability – Ending	$ 1,658,351,553	$ 1,673,122,191	$1,265,862,200	$1,190,927,335
Plan Fiduciary Net Position				
Employer Contributions	$ 48,797,779	$ 41,077,344	$ 39,519,979	$ 40,708,503
Employee Contributions	14,248,567	12,591,552	12,652,029	11,664,711
Net Investment Income	(41,671,079)	124,796,919	44,492,088	(5,342,651)
Benefit Payments Including Refunds of Employee Contributions	(1,996,982)	(112,950,471)	(113,608,409)	(113,384,329)
Administrative Expense	(1,613,506)	(1,613,506)	(1,554,314)	(1,466,261)
Other	-	-	-	(431,423)
Net Change in Plan Fiduciary Net Position	(94,632,367)	63,901,838	(18,498,627)	(68,251,450)
Plan Fiduciary Net Position – Beginning	914,082,260	850,180,422	868,679,049	936,930,499
Plan Fiduciary Net Position – Ending	$ 819,449,893	$ 914,082,260	$ 850,180,422	$ 868,679,049
Net Pension Liability – Ending	$ 838,901,660	$ 759,039,931	$ 415,681,778	$ 322,248,286
Total Pension Liability	$ 1,658,351,553	$ 1,673,122,191	$1,265,862,200	$ 1,190,927,335
Less: Plan Fiduciary Net Position	819,449,893	914,082,260	850,180,422	868,679,049
Employer Net Pension Liability	$ 838,901,660	$ 759,039,931	$ 415,681,778	$ 322,248,286
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	49.41 %	54.63 %	67.16 %	72.94 %
Covered Payroll	$ 265,773,659	$ 260,223,066	$ 252,127,288	$ 245,699,583
Employer Net Pension Liability as a Percentage of Covered Payroll	316 %	292 %	165 %	131 %

*Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

Schedules of the System's Proportionate Share of the Net Pension Liability for the Years Ended December 31,

Required Supplementary Information

	2022	2021	2020	2019	2018	2017	2016	2015
System's Proportion of the Net Pension Liability	0.24 %	0.19 %	0.21 % $	0.19 %	0.23 %	0.21 %	0.20 %	0.22 %
System's Proportionate Share of the Net Pension Liability	$ 713,847	$688,612	$1,051,687	$1,621,273	$1,727,361	$876,434	$649,399	$570,232
System's Covered Payroll	$560,925	$446,482	$509,484	$453,896	$535,096	$478,280	$454,115	$472,849
System's Proportionate Share of the Net Pension Liability as a Percentage of Its Covered Payroll	127.26 %	154.20 %	206.40 %	357.19 %	322.81 %	183.25 %	143.00 %	120.59 %
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	76.63 %	71.55 %	70.25 %	49.41 %	54.63 %	67.16 %	72.94 %	77.95 %

*The amounts presented for each fiscal year were determined as of December 31 of the previous year.
The goal is to provide a full 10-year history as the information becomes available.

Schedules of Annual Money-Weighted Rate of Return on Investments

for the Years Ended December 31, Required Supplementary Information

The System began tracking the annual money-weighted rate of return during the fiscal year ended December 31, 2014. The annual money-weighted rate of return for future years will appear in the following schedule as they occur. The goal is to provide a full 10-year history as the information becomes available.

	2022	2021	2020	2019	2018	2017	2016	2015
Annual Money-Weighted Rate of Return, Net of Investment Expense, Adjusted for the Changing Amounts Actually Invested	5.99 %	6.13 %	8.90 %	16.83 %	(5.09) %	15.55 %	5.52 %	(1.00) %

Schedules of Employer Contributions December 31, 2022

Required Supplementary Information

Total Board of Education, Retirement System, and Charter Schools

Year Ended December 31,	Actuarially Determined Contribution	Statutory Annual Required Contribution	Contributions Recognized by the Plan	Contributions Deficiency (Excess)	Covered Payroll	Contributions Recognized by the Plan as a Percentage of Covered Payroll
2013	$35,367,598	$37,267,578	$34,819,740	$547,858	$234,760,091	14.83%
2014	$37,267,278	$38,597,230	$40,168,793	$(2,901,515)	$225,893,514	17.78%
2015	$38,597,230	$37,210,752	$39,602,486	$(1,005,256)	$243,280,015	16.28%
2016	$37,210,752	$39,657,956	$38,805,161	$(1,594,409)	$245,699,583	15.79%
2017	$39,657,956	$49,693,589	$40,664,374	$(1,006,418)	$252,127,288	16.13%
2018	$49,693,589	$42,533,354	$48,495,557	$1,198,032	$260,223,066	18.64%
2019	$47,096,163	$40,884,719	$43,710,302	$3,385,861	$265,773,659	16.45%
2020	$49,429,863	$40,946,007	$41,705,205	$7,724,658	$263,772,380	15.81%
2021	$49,622,726	$38,378,143	$41,116,998	$8,505,728	$272,973,377	15.06%
2022	$45,259,945	$36,321,658	$40,990,375	$4,269,570	$264,676,845	15.49%

Board of Education

Year Ended December 31,	Actuarially Determined Contribution	Statutory Annual Required Contribution	Contributions Recognized by the Plan	Contributions Deficiency (Excess)	Covered Payroll	Contributions Recognized by the Plan as a Percentage of Covered Payroll
2013	$27,962,472	$31,555,696	$27,962,472	-	$185,606,968	15.07%
2014	$31,555,696	$31,072,850	$31,555,696	-	$191,273,081	16.50%
2015	$31,072,850	$29,007,501	$31,072,850	-	$195,853,519	15.87%
2016	$29,007,501	$30,459,434	$29,007,501	-	$191,534,175	15.14%
2017	$30,459,434	$37,376,323	$30,459,434	-	$193,647,262	15.73%
2018	$37,376,323	$31,344,663	$37,376,323	-	$195,723,057	19.10%
2019	$34,715,003	$29,884,664	$31,344,663	$3,370,340*	$195,904,143	16.00%
2020	$36,133,150	$29,106,335	$29,884,664	$6,248,486*	$192,817,182	15.50%
2021	$35,274,153	$26,692,454	$29,106,335	$6,167,818*	$194,042,234	15.00%
2022	$31,478,829	$23,639,359	$26,692,454	$4,786,375*	$184,085,888	14.50%

*The Board of Education paid the statutory required contribution that was recognized by the System a year in arrears.

Retirement System

Year Ended December 31,	Actuarially Determined Contribution	Statutory Annual Required Contribution	Contributions Recognized by the Plan	Contributions Deficiency (Excess)	Covered Payroll	Contributions Recognized by the Plan as a Percentage of Covered Payroll
2013	$91,361	$85,890	$91,361	-	$606,427	15.07%
2014	$85,590	$83,960	$85,590	-	$518,799	16.50%
2015	$83,960	$79,497	$83,960	-	$529,203	15.87%
2016	$79,497	$74,644	$79,497	-	$524,915	15.14%
2017	$74,644	$100,565	$74,644	-	$474,551	15.73%
2018	$100,565	$98,558	$100,565	-	$526,616	19.10%
2019	$98,558	$64,408	$98,558	-	$556,184	17.72%
2020	$75,452	$75,904	$74,309	$1,143	$402,634	18.46%
2021	$91,988	$80,206	$80,206	$11,782	$506,024	15.85%
2022	$94,588	$81,944	$81,944	$12,644	$553,144	14.81%

The actuarial determined contribution is determined from the prior year census; therefore the contributions are recognized one year in arrears.

Charter Schools

Year Ended December 31,	Actuarially Determined Contribution	Statutory Annual Required Contribution	Contributions Recognized by the Plan	Contributions Deficiency (Excess)	Covered Payroll	Contributions Recognized by the Plan as a Percentage of Covered Payroll
2013	$7,313,765	$5,625,992	$6,765,907	$547,858*	$48,546,696	13.94%
2014	$5,625,992	$7,440,420	$8,527,507	$(2,901,515)*	$34,101,634	25.01%
2015	$7,440,420	$8,123,754	$8,445,676	$(1,005,256)*	$46,897,293	18.01%
2016	$8,123,754	$9,123,878	$9,718,163	$(1,594,409)*	$53,640,493	18.12%
2017	$9,123,878	$12,216,701	$10,130,296	$(1,006,418)*	$58,005,475	17.46%
2018	$12,216,701	$11,090,133	$11,018,669	$1,198,032*	$63,973,393	17.22%
2019	$12,282,602	$10,935,647	$12,267,081	$15,521*	$69,313,332	17.70%
2020	$13,221,261	$11,763,768	$11,746,232	$1,475,029*	$70,552,564	16.65%
2021	$14,256,585	$11,605,483	$11,930,457	$2,326,128*	$78,425,119	15.21%
2022	$13,686,528	$12,600,355	$14,215,977	$(529,449)*	$80,037,813	17.76%

*Charter Schools report and pay employer contributions in the current year as service is credited.

The actuarial determined contribution is determined from the prior year census; therefore the contributions are recognized one year in arrears.

Additional information related to the actuarial valuation on the previous page follows:

	2022	**2021**
Actuarial Cost Method	Entry age normal	Frozen entry age
Rate of Investment Return	7.00%, net of expenses	7.50%, net of expenses
Participant Account Interest Crediting Rate	5.00%	5.00%
Turnover or Withdrawal Rates	Various by age and year of membership based on actual experience	Various by age and year of membership based on actual experience
Mortality and Death Rates	a) PubG-2010 (Below Median) Mortality Table, amount weighted, projected fully generationally using projection scale MP- 2021. The mortality assumption for retired participants receiving benefits increased by 2% for males and 10% for females. b) PubG-2010 (Below Median) Mortality Table, amount weighted, projected fully generationally using projection scale MP- 2021.	a) RP-2014 Combined Healthy Mortality table (rolled back to 2006) for active Members, and deferred vested Members, projected fully generationally using projection scale MP-2015. b) RP-2014 Combined Healthy Mortality Table (rolled back to 2006) for Inactive (In Receipt) Members adjusted by an additional 10% to account for the higher mortality experienced by the Plan, projected fully generationally using projection scale MP-2015.
Disability Rates	PubT/G-2010 Mortality Disability Table, amount weighted, projected fully generationally using projection scale MP-2021.	RP-2014 Disability Mortality Table (rolled back to 2006), projected fully generationally using projection scale MP-2015
Rates of Retirement Between the Ages of 55 and 70	Various based on actual experience of the System	Various based on actual experience of the System
Rate of Salary Increases	Salaries are assumed to increase at the rate of 5.0% per year for the first 5 years of employment and at the rate of 3.5% per year thereafter	Salaries are assumed to increase at the rate of 5.0% per year for the first 5 years of employment and at the rate of 3.5% per year thereafter.
Asset Valuation Method	The smoothed market value method	The assumed yield method of valuing assets

The UFAAL was originally determined and frozen as of January 1, 1981. Effective January 1, 2006, the UFAAL was re-determined and is being amortized over thirty (30) years.

There were no method or assumption changes made since the prior valuation.

Schedules of Operating Expenses Years Ended December 31, 2022 and 2021

	2022	2021
Actuarial Services	$ 135,165	$ 143,339
Accounting and Auditing Fees	90,968	89,336
Computer Programming and Consulting	78,005	93,294
Conventions, conferences, seminars – Trustees (see below)	34,911	1,600
Depreciation expense	51,627	51,627
Dues and subscriptions	8,575	8,780
Health Insurance Consulting	49,843	39,843
Insurance – Group Health	81,286	77,271
Insurance – Casualty and Bonding	117,324	121,685
Legal Fees and Expenses	106,648	107,665
Medical Fees	-	400
Miscellaneous Expense	24,959	11,413
Occupancy Expense	40,532	51,926
Office Repairs and Maintenance	44,112	41,061
Office Supplies and Expenses	12,729	12,794
Payroll Taxes	38,902	37,000
Pension Expense	(233,541)	13,612
Postage	64,047	60,113
Printing and Publishing	19,447	33,739
Salaries – Administrative and Clerical	510,123	483,754
Telephone	12,685	13,639
Utilities	31,450	29,180
Total Operating Expenses	$1,319,797	$1,523,071

Trustees' Expenses

The Trustees attended conferences and business meetings in connection with business of the System. The Trustees received no salaries but were allowed expenses relating to their attendance at such events as follows:

	2022	2021
Lodging, Meals, and Miscellaneous	$ 11,181	$ -
Less: Fiduciary Net Position	23,730	1,600
Total Trustees' Expenses	$ 34,911	$1,600

Schedules of Investment Expenses Years Ended December 31, 2022 and 2021

	2021	2021
Investment Management Fees		
Causeway Capital Management	$ 271,509	$ 307,069
Earnest Partners	27,273	30,288
Edgar Lomax Company	304,663	317,391
Entrust Capital Diversified Fund Ltd.	-	7,832
Fidelity Institutional Asset Management	260,145	300,452
Invesco Global Performance	241,022	-
Intech Investment Management	104,662	165,103
Lazard Asset Management	198,127	228,391
Loomis Sayles & Company, L.P.	229,110	236,578
Manulife Asset Management	107,816	120,539
Mellon Capital Management	11,658	63,728
NCM Capital	-	31,488
OFI Global Asset Management	-	308,953
Systematic Financial Management	287,904	335,560
TCW Asset Management Company	181,253	240,197
UBS Realty Investors LLC	474,421	408,033
US Bank Trust	102,682	110,060
Westfield Capital Management	246,637	323,714
Whitebox Multi-Strategy Fund, L.P.	355,046	320,923
Xponance	300,166	327,567
Total Investment Management Fees	3,704,094	4,183,866
NEPC, LLC	-	189,414
AndCo LLC	189,250	-
Banking Services	31,136	42,201
Total Investment Expenses	$3,924,480	$4,415,481

Schedules of Professional/Consultant Fees Years Ended December 31, 2022 and 2021

	2022	2021
Actuarial Services	$ 135,165	$ 143,339
Accounting and Auditing Fees	90,968	89,336
Building Property Management	40,532	51,926
Health Insurance Consulting	49,843	39,843
Legal Expenses	106,648	107,665
Technology Consulting	78,005	93,294
Total Fees	$ 501,161	$525,403

Schedules of Limited Partnerships Years Ended December 31, 2022 and 2021

Partnership Name	Style	Investments at Fair Value as of December 31, 2022
Alidade Capital Fund V, LP.	Private Equity & Private Debt	$ 1,102,028
Asia Alternatives Capital Partners VI, L.P.	Private Equity & Private Debt	2,126,449
Asia Alternatives Delaware VI, L.P.	Private Equity & Private Debt	66,146
Bain Capital Special Situations Asia II, L.P.	Private Equity & Private Debt	553,961
BIG Real Estate Fund I, L.P.	Private Equity & Private Debt	5,484,831
BIG Real Estate Fund II, L.P.	Private Equity & Private Debt	2,655,842
Brightwood Capital Fund IV, L.P.	Private Equity & Private Debt	9,873,103
Crayhill Principal Strategies Fund II, L.P.	Private Equity & Private Debt	2,482,838
ElmTree U.S. Net Lease Fund IV, L.P.	Private Equity & Private Debt	3,523,742
Fairview Private Markets Fund VI, L.P.	Private Equity & Private Debt	673,429
Fort Washington Private Equity Investors IX, L.P.	Private Equity & Private Debt	17,391,888
GCM Grosvenor Advance Fund, L.P.	Private Equity & Private Debt	5,865,170
HarbourVest Global Fund, L.P.	Private Equity & Private Debt	1,786,427
Kayne Anderson Real Estate Partners VI, L.P.	Private Equity & Private Debt	1,480,131
Landmark Equity Partners XIV, L.P.	Private Equity & Private Debt	383,667
Landmark Equity Partners XV, L.P.	Private Equity & Private Debt	2,245,821
Landmark Equity Partners XVI, L.P.	Private Equity & Private Debt	8,594,623
MC Credit Partner, L.P.	Private Equity & Private Debt	4,019,720
Mesirow Financial Private Equity Partnership Fund III, L.P.	Private Equity & Private Debt	224,550
Mesirow Financial Private Equity Partnership Fund V, L.P.	Private Equity & Private Debt	4,322,809
Monroe Capital Private Credit Fund II L.P.	Private Equity & Private Debt	2,738,926
Monroe Capital Private Credit Fund III L.P.	Private Equity & Private Debt	9,469,690
Pantheon Global Secondary Fund III B, L.P.	Private Equity & Private Debt	110,756
Vista Foundation Fund II, L.P.	Private Equity & Private Debt	2,402,222
		$89,578,769

Schedules of Limited Partnerships Years Ended December 31, 2022 and 2021

Partnership Name	Style	Investments at Fair Value as of December 31, 2021
Asia Alternatives Capital Partners VI, L.P.	Private Equity & Private Debt	$ 652,939
Bain Capital Special Situations Asia II, L.P.	Private Equity & Private Debt	455,993
BIG Real Estate Fund I, L.P.	Private Equity & Private Debt	6,121,710
Brightwood Capital Fund IV, L.P.	Private Equity & Private Debt	9,462,082
Crayhill Principal Strategies Fund II, L.P.	Private Equity & Private Debt	1,691,490
ElmTree U.S. Net Lease Fund IV, L.P.	Private Equity & Private Debt	1,621,972
Fort Washington Private Equity Investors IX, L.P.	Private Equity & Private Debt	17,177,846
GCM Grosvenor Advance Fund, L.P.	Private Equity & Private Debt	2,739,998
HarbourVest Global Fund, L.P.	Private Equity & Private Debt	376,748
Kayne Anderson Real Estate Partners VI, L.P.	Private Equity & Private Debt	502,462
Landmark Equity Partners XIV, L.P.	Private Equity & Private Debt	560,695
Landmark Equity Partners XV, L.P.	Private Equity & Private Debt	4,136,838
Landmark Equity Partners XVI, L.P.	Private Equity & Private Debt	6,774,688
MC Credit Partner, L.P.	Private Equity & Private Debt	3,405,111
Mesirow Financial Private Equity Partnership Fund III, L.P.	Private Equity & Private Debt	374,199
Mesirow Financial Private Equity Partnership Fund V, L.P.	Private Equity & Private Debt	3,371,881
Monroe Capital Private Credit Fund II L.P.	Private Equity & Private Debt	4,733,066
Monroe Capital Private Credit Fund III L.P.	Private Equity & Private Debt	9,688,702
Pantheon Global Secondary Fund III B, L.P.	Private Equity & Private Debt	217,484
Vista Foundation Fund II, L.P.	Private Equity & Private Debt	5,147,245
		$79,213,149

Schedules of Required Annual Contribution Years Ended December 31, 2022 and 2021

As determined by the actuary, the required annual contribution is as follows at January 1, 2022:

	Board of Education	Retirement System	Charter Schools	Total
Actuarially Determined Employer Contribution (ADEC):				
Normal Cost Contribution	$ 14,525,814	$ 50,353	$ 7,742,614	$ 22,318,781
Actuarial Accrued Liability Contribution	23,255,821	80,615	12,395,920	35,732,356
Member Contributions	(13,676,596)	(47,410)	(7,289,960)	(21,013,966)
ADEC	$ 24,105,039	$ 83,558	$ 12,848,574	$ 37,037,171
Covered Payroll	$168,852,563	$ 585,315	$90,002,539	$259,440,417
ADEC as % of Covered Payroll	14.28 %	14.28 %	14.28 %	14.00 %
Statutory Annual Required Contribution (ARC):				
Covered Payroll	$ 168,852,563	$585,315	$90,002,539	$259,440,417
Statutory Annual Required Contribution	14.28 %	14.00 %	14.00 %	14.00 %
ARC	$ 23,639,359	$ 81,944	$ 12,600,355	$ 36,321,658

The actuarial and statutory determined contribution is determined from the prior year census for the Board of Education and Retirement System; therefore the contributions are recognized one year in arrears.

As determined by the actuary, the required annual contribution is as follows at January 1, 2021:

	Board of Education	Retirement System	Charter Schools	Total
Actuarially Determined Employer Contribution (ADEC):				
Normal Cost Contribution	$ 12,395,193	$ 37,245	$ 5,389,246	$ 17,821,684
Actuarial Accrued Liability Contribution	19,083,636	57,343	8,297,282	27,438,261
ADEC	$ 31,478,829	$ 94,588	$13,686,528	$ 45,259,945
Covered Payroll	$184,085,888	$553,144	$80,037,813	$264,676,845
ADEC as % of Covered Payroll	17.10 %	17.10 %	17.10 %	17.10 %
Statutory Annual Required Contribution (ARC):				
Covered Payroll	$184,085,888	$553,144	$80,037,813	$264,676,845
Statutory Annual Required Contribution	14.50 %	14.50 %	14.50 %	14.50 %
ARC	$ 26,692,454	$ 80,206	$11,605,483	$ 38,378,143

The actuarial and statutory determined contribution is determined from the prior year census for the Board of Education and Retirement System; therefore the contributions are recognized one year in arrears.

Schedule of Actuarial Present Values of Projected Benefit Payments 000's Omitted December 31, 2022

Fiscal Year Ending 12/31	Beginning Fiduciary Net Position	Benefit Payments: Benefit Payments	Benefit Payments: Funded Portion	Benefit Payments: Unfunded Portion	Present Value of Benefit Payments: Funded Portion at 7.00%	Present Value of Benefit Payments: Unfunded Portion at 4.31%	Present Value of Benefit Payments: Using a Single Discount Rate of 7.00%
2023	$ 817,868	$ 108,928	$ 108,928	$ -	$ 105,305	$ -	$ 105,305
2024	$ 817,745	$ 107,053	$ 107,053	$ -	$ 96,721	$ -	$ 96,721
2025	$ 816,461	$ 105,327	$ 105,327	$ -	$ 88,937	$ -	$ 88,937
2026	$ 814,379	$ 103,780	$ 103,780	$ -	$ 81,897	$ -	$ 81,897
2027	$ 811,144	$ 102,708	$ 102,708	$ -	$ 75,749	$ -	$ 75,749
2028	$ 806,345	$ 102,099	$ 102,099	$ -	$ 70,374	$ -	$ 70,374
2029	$ 799,632	$ 101,483	$ 101,483	$ -	$ 65,373	$ -	$ 65,373
2030	$ 791,001	$ 100,741	$ 100,741	$ -	$ 60,650	$ -	$ 60,650
2031	$ 780,590	$ 99,857	$ 99,857	$ -	$ 56,184	$ -	$ 56,184
2032	$ 768,501	$ 99,060	$ 99,060	$ -	$ 52,090	$ -	$ 52,090
2033	$ 754,557	$ 98,161	$ 98,161	$ -	$ 48,420	$ -	$ 48,420
2034	$ 738,796	$ 97,097	$ 97,097	$ -	$ 44,596	$ -	$ 44,596
2035	$ 722,742	$ 95,824	$ 95,824	$ -	$ 41,132	$ -	$ 41,132
2036	$ 706,658	$ 94,581	$ 94,581	$ -	$ 37,942	$ -	$ 37,942
2037	$ 690,573	$ 93,198	$ 93,198	$ -	$ 34,941	$ -	$ 34,941
2038	$ 674,725	$ 91,842	$ 91,842	$ -	$ 32,180	$ -	$ 32,180
2039	$ 659,160	$ 90,476	$ 90,476	$ -	$ 29,628	$ -	$ 29,628
2040	$ 643,986	$ 89,234	$ 89,234	$ -	$ 27,309	$ -	$ 27,309
2041	$ 629,128	$ 87,787	$ 87,787	$ -	$ 25,109	$ -	$ 25,109
2042	$ 614,872	$ 86,406	$ 86,406	$ -	$ 23,097	$ -	$ 23,097
2043	$ 601,256	$ 85,027	$ 85,027	$ -	$ 21,242	$ -	$ 21,242
2044	$ 588,378	$ 83,634	$ 83,634	$ -	$ 19,527	$ -	$ 19,527
2045	$ 576,360	$ 82,311	$ 82,311	$ -	$ 17,961	$ -	$ 17,961
2046	$ 565,247	$ 80,942	$ 80,942	$ -	$ 16,507	$ -	$ 16,507
2047	$ 555,193	$ 79,681	$ 79,681	$ -	$ 15,186	$ -	$ 15,186
2048	$ 546,232	$ 78,267	$ 78,267	$ -	$ 13,941	$ -	$ 13,941
2049	$ 538,654	$ 77,155	$ 77,155	$ -	$ 12,844	$ -	$ 12,844
2050	$ 532,289	$ 76,027	$ 76,027	$ -	$ 11,828	$ -	$ 11,828
2051	$ 527,297	$ 74,756	$ 74,756	$ -	$ 10,869	$ -	$ 10,869
2052	$ 523,967	$ 73,098	$ 73,098	$ -	$ 9,933	$ -	$ 9,933
2053	$ 522,861	$ 71,394	$ 71,394	$ -	$ 9,067	$ -	$ 9,067
2054	$ 524,243	$ 69,747	$ 69,747	$ -	$ 8,278	$ -	$ 8,278
2055	$ 528,256	$ 67,853	$ 67,853	$ -	$ 7,527	$ -	$ 7,527
2056	$ 535,378	$ 65,873	$ 65,873	$ -	$ 6,829	$ -	$ 6,829
2057	$ 545,953	$ 63,707	$ 63,707	$ -	$ 6,172	$ -	$ 6,172
2058	$ 560,455	$ 61,442	$ 61,442	$ -	$ 5,563	$ -	$ 5,563
2059	$ 579,297	$ 59,071	$ 59,071	$ -	$ 4,999	$ -	$ 4,999
2060	$ 602,918	$ 56,607	$ 56,607	$ -	$ 4,477	$ -	$ 4,477
2061	$ 631,785	$ 54,157	$ 54,157	$ -	$ 4,003	$ -	$ 4,003
2062	$ 666,273	$ 51,703	$ 51,703	$ -	$ 3,572	$ -	$ 3,572
2063	$ 706,817	$ 49,252	$ 49,252	$ -	$ 3,180	$ -	$ 3,180
2064	$ 753,872	$ 46,812	$ 46,812	$ -	$ 2,824	$ -	$ 2,824
2065	$ 807,914	$ 44,391	$ 44,391	$ -	$ 2,503	$ -	$ 2,503
2066	$ 869,435	$ 41,996	$ 41,996	$ -	$ 2,213	$ -	$ 2,213
2067	$ 938,970	$ 39,629	$ 39,629	$ -	$ 1,952	$ -	$ 1,952
2068	$ 1,017,077	$ 37,296	$ 37,296	$ -	$ 1,717	$ -	$ 1,717

Schedule of Projection of Fiduciary Net Position 000's Omitted

December 31, 2022

Year		Projected Beginning Fiduciary Net Position		Projected Total Contributions		Projected Benefit Payments		Projected Administrative Expenses		Projected Investment Earnings		Projected Ending Fiduciary Net Position
2023	$	817,868	$	54,816	$	108,928	$	1,353	$	55,342	$	817,745
2024	$	817,745	$	51,860	$	107,053	$	1,387	$	55,296	$	816,461
2025	$	816,461	$	49,485	$	105,327	$	1,421	$	55,181	$	814,379
2026	$	814,379	$	46,999	$	103,780	$	1,457	$	55,003	$	811,144
2027	$	811,144	$	44,670	$	102,708	$	1,493	$	54,732	$	806,345
2028	$	806,345	$	42,573	$	102,099	$	1,531	$	54,344	$	799,632
2029	$	799,632	$	40,596	$	101,483	$	1,569	$	53,825	$	791,001
2030	$	791,001	$	38,756	$	100,741	$	1,608	$	53,182	$	780,590
2031	$	780,590	$	36,994	$	99,857	$	1,648	$	52,422	$	768,501
2032	$	768,501	$	35,264	$	99,060	$	1,689	$	51,541	$	754,557
2033	$	754,557	$	33,593	$	98,161	$	1,732	$	50,539	$	738,796
2034	$	738,796	$	33,357	$	97,097	$	1,775	$	49,461	$	722,742
2035	$	722,742	$	33,185	$	95,824	$	1,819	$	48,374	$	706,658
2036	$	706,658	$	33,075	$	94,581	$	1,865	$	47,286	$	690,573
2037	$	690,573	$	33,056	$	93,198	$	1,911	$	46,205	$	674,725
2038	$	674,725	$	33,094	$	91,842	$	1,959	$	45,142	$	659,160
2039	$	659,160	$	33,209	$	90,476	$	2,008	$	44,101	$	643,986
2040	$	643,986	$	33,349	$	89,234	$	2,058	$	43,085	$	629,128
2041	$	629,128	$	33,540	$	87,787	$	2,110	$	42,101	$	614,872
2042	$	614,872	$	33,796	$	86,406	$	2,163	$	41,157	$	601,256
2043	$	601,256	$	34,107	$	85,027	$	2,217	$	40,259	$	588,378
2044	$	588,378	$	34,471	$	83,634	$	2,272	$	39,417	$	576,360
2045	$	576,360	$	34,893	$	82,311	$	2,329	$	38,634	$	565,247
2046	$	565,247	$	35,359	$	80,942	$	2,387	$	37,916	$	555,193
2047	$	555,193	$	35,894	$	79,681	$	2,447	$	37,273	$	546,232
2048	$	546,232	$	36,485	$	78,267	$	2,508	$	36,712	$	538,654
2049	$	538,654	$	37,120	$	77,155	$	2,571	$	36,241	$	532,289
2050	$	532,289	$	37,815	$	76,027	$	2,635	$	35,855	$	527,297
2051	$	527,297	$	38,554	$	74,756	$	2,701	$	35,573	$	523,967
2052	$	523,967	$	39,339	$	73,098	$	2,768	$	35,421	$	522,861
2053	$	522,861	$	40,184	$	71,394	$	2,838	$	35,430	$	524,243
2054	$	524,243	$	41,059	$	69,747	$	2,909	$	35,610	$	528,256
2055	$	528,256	$	41,971	$	67,853	$	2,981	$	35,985	$	535,378
2056	$	535,378	$	42,922	$	65,873	$	3,056	$	36,582	$	545,953
2057	$	545,953	$	43,913	$	63,707	$	3,132	$	37,428	$	560,455
2058	$	560,455	$	44,941	$	61,442	$	3,210	$	38,553	$	579,297
2059	$	579,297	$	45,996	$	59,071	$	3,291	$	39,987	$	602,918
2060	$	602,918	$	47,086	$	56,607	$	3,373	$	41,761	$	631,785
2061	$	631,785	$	48,201	$	54,157	$	3,457	$	43,901	$	666,273
2062	$	666,273	$	49,354	$	51,703	$	3,544	$	46,437	$	706,817
2063	$	706,817	$	50,543	$	49,252	$	3,632	$	49,396	$	753,872
2064	$	753,872	$	51,763	$	46,812	$	3,723	$	52,814	$	807,914
2065	$	807,914	$	53,010	$	44,391	$	3,816	$	56,718	$	869,435
2066	$	869,435	$	54,294	$	41,996	$	3,912	$	61,149	$	938,970
2067	$	938,970	$	55,606	$	39,629	$	4,009	$	66,139	$	1,017,077
2068	$	1,017,077	$	56,953	$	37,296	$	4,110	$	71,731	$	1,104,355

3

Investment Section

"to enhance the well-being and financial security of its members, retirees and beneficiaries....

Clients first.

April 24, 2023

The Board of Trustees
Public School Retirement System of the City of St. Louis
3641 Olive Street, Suite 300
St. Louis, MO 63108

Dear Board Members,

As we reflect on the capital markets challenges presented during 2022, AndCo is encouraged to report a significant amount of progress achieved by the System for the year including:

- A full review of the System's asset allocation, asset class structures and managers to determine that the program remains well positioned to achieve the objectives as outlined in the Operating Guidelines and Statement of Investment Policy.
- Restructuring of the US equity, international equity, fixed income, and liquid alternatives components to optimize the level of risk-adjusted return of the System. This included replacing an under performing active US large cap growth equity manager with lower-cost index exposure and liquidating an under performing global allocation manager to lower the overall exposure to this asset class.
- Increase in the target allocation to private debt to recognize the potential long-term value added and diversification offered by the asset class.
- Review and update of the System's Operating Guidelines and Statement of Investment Policy to memorialize the changes previously outlined.
- Review of outstanding private equity, private debt, and private real estate fund commitments along with a pacing study to determine ongoing capital commitment requirements to maintain compliance with policy ranges to these asset classes.
- Review and communication of the MWDBE brokerage mandates of the Systems separate account managers resulting in increased utilization.

The overall objective of the Public School Retirement System of the City of St. Louis is to provide service, disability, death and vested retirement benefits, and other post employment benefits to Members and their Beneficiaries. To ensure a solid foundation for the future of the System, the investment program is designed to achieve the actuarial assumed rate of return in the long term, while prudently managing the risks and costs of the portfolio.

Asset Allocation and Investment Results

The System employs an asset allocation that is well diversified, optimally structured within asset classes, limits uncompensated risks, and maintains an adequate level of liquidity to satisfy ongoing benefit payments and expenses.

At the December 31, 2022, fiscal year end the asset allocation of the System was 48.8% equities, 19.3% fixed income, 2.6% liquid global asset allocation strategies, 7.2% hedge funds, 8.8% real estate, 6.0% private equity, 3.3% private debt strategies, and 3.9% cash.

During the year ending December 31, 2022, the System returned -11.0% gross of fees. Although negative, the result was 100 basis points ahead of the benchmark policy index and ranked in the 20th percentile of public funds with assets less than $1.0 billion within the InvestmentMetrics Public Fund Defined Benefit Universe. These favorable results relative to the benchmark and Universe evidence the effectiveness of a diversified portfolio structured to withstand short-term market shock while delivering long-term growth. Assets decreased from $968.7 million at the end of fiscal year 2021 to approximately $808.3 million as of year-end 2021. Over the trailing 5-year period ending December 31, 2022, the System earned an annualized rate of return of 4.55%, ranking in the 69th percentile of the comparative universe, representing an improvement in the 5-year rank relative to the end of the prior fiscal year. Over the trailing 10-year period ending December 31, 2022, the System earned an annualized rate of return of 6.4%, ranking in the 75th percentile.

Economy and Markets

The major economic headline item for 2022 was persistent global inflation. In the US, CPI peaked at an annualized rate of just over 9% in June but moderated to an annualized rate of 6.5% to end the year. The US Federal Reserve Bank (the Fed), to curb inflation, steadily increased interest rates throughout 2022 with a total of 7 increases resulting in a year-end upper-range target rate of 4.5%. This represented a significant shift from the near-zero policy target to start the year. Importantly, the Fed signaled it remains committed to fighting inflation through additional rate hikes if needed.

US GDP growth remained strong in 2022 with the final measure from the third quarter being revised upward to 3.2%. Global GDP growth remains challenged with higher energy prices continuing to act as a headwind, especially in Europe. However, China began the process of reopening its economy which should boost emerging markets.

The US labor market continued to show its resiliency evidenced by an unemployment rate that fell to 3.5% by the end of the year. Despite this data, the number of announced layoffs increased later in the year, which could impact labor markets in the coming year.

Global markets experienced persistent inflation, tighter central bank monetary policy, slowing GDP growth, and continuing geopolitical risks with investors focusing on the potential of global central banks slowing the pace of tightening as inflation moderates.

Global Equity Markets

The performance for developed equity markets was strongly negative over the trailing 1-year period. The bellwether S&P 500 Index dropped -18.1% for the year. The primary drivers of return during the period were concerns related to rising inflation, tighter monetary policy from global central banks, and slowing global economic growth. The weakest relative performance outlier was the Russell 2000 Index which declined by -20.4% for the year.

Over the trailing 1-year period, international equity markets declined similarly to domestic markets. The MSCI EAFE Index returned -14.5% while the MSCI Emerging Markets Index fell by -20.1%. Continued concerns related to Ukraine, elevated inflation, and slowing global economic growth negatively impacted markets. However, a weakening USD acted as a tailwind to international performance in the second half of the year.

Global Fixed Income Markets

Bond market returns were widely negative over the trailing 1-year period due primarily to concerns about persistently high inflation and the expectation of higher future interest rates. US TIPS and mortgage-backed bonds were the least negative sectors with both returning -11.6% for the year. Investment grade corporate bonds suffered the year's largest loss, falling -15.8%. Lower quality high yield corporate bonds were down less than their investment grade counterparts on a relative basis with the Bloomberg US High Yield Index posting a return of -11.2% for the period.

Performance for non-US bonds was also strongly negative for the year with the developed market Bloomberg Global Aggregate ex US Index falling by -18.7%. The combination of rising interest rates overseas, elevated inflation, geopolitical risks, and USD strength earlier in the year hindered non-US index performance.

Real Assets and Alternatives

Private equity and private debt deal flow and performance remained strong in 2022 as investors continued to search for diversification away from the daily volatility and direct interest rate exposure of the fixed income markets and certain segments of the global equity markets. Valuations, however, are expected to experience downward pressure over the coming year to recognize interest rate impacts and a potential investor rotation back to more favorably valued public capital markets.

Following a strong year, private commercial Real Estate experienced pressure towards the end of 2022 as valuations were impacted by the rising interest rate environment and occupancy concerns that may accompany an economic slowdown. Growing industry-wide redemptions for rebalancing are also expected to adversely impact valuations over the coming year.

Although some hedge fund strategies could not completely avoid negative market impacts in the year, the aggregate of strategies and managers successfully limited the amount of downside to provide protection in the volatile environment. The most successful strategies were those designed to take advantage of higher equity and fixed income market volatility, as well as macro and commodity strategies boosted by high inflation.

In Closing

While inflation and rising interest rates represented the greatest headwinds for the System's assets in 2022, gradually moderating inflation data has moved the Fed closer to the end of the current rate cycle. Notwithstanding elevated market volatility levels, the recent sell-off has improved the attractiveness of global equity valuations, while higher interest rates will translate into stronger fixed income coupon yields and returns for the asset class. It's important to reiterate that the structure of the System's asset allocation, asset class compositions and manager selection are designed to withstand short-term market downside while maximizing the probability of meeting the actuarial return assumption and liquidity requirements over longer market cycles. With the most recent re-allocation activity, we remain confident that these tenets continue to be reinforced.

Sincerely,

Gwelda Swilley
Consultant

Jeff Kuchta
Consultant

Investment Policies

Pursuant to the Rules & Regulations established by the PSRSSTL Board of Trustees, the System's assets are invested according to Rule XIV. – Investment Policies. The following is a summary of the System's Investment Goals under Rule XIV., Section 3:

> *Assets of the System shall be invested in a manner designed to preserve and enhance principal over the long term, both in real and nominal terms. Total return, consistent with prudent investment management, is the primary goal of the System. Total return, as used herein, includes income less expenses plus realized and unrealized gains and losses in the System's assets. The Trustees will establish, in the Investment and Operating Guidelines, both real and nominal long-term target rates of return for the Fund that are projected to provide a high probability of achieving the System's long-term investment objectives within acceptable risk levels. The Trustees shall establish, in the Investment and Operating Guidelines, additional performance expectations for the Fund as a whole and for each asset classification within the Fund. Total Fund risk exposure and risk adjusted returns will be regularly evaluated and compared to such peer group or groups that the Trustees and investment consultant may from time to time select.*

Investment and Operating Guidelines

PSRSSTL has issued Investment and Operating Guidelines to steer the System's fiduciaries, including staff, investment consultants, investment professionals and investment managers, in the course of investing and administering the Fund's assets, and to measure the performance of the Fund and its investment managers. The guidelines contain specific directives for the following:

Performance Objectives by Asset Class
Operating Guidelines by Asset Class
Standards of Investment Performance
Reporting Requirements
Asset Allocation Policy
Liquidity Assumption for Benefit Payments
Watch List / Probation Process
Use of Guidelines by Investment Managers

Code of Ethics Policy

The Board of Trustees has adopted a Code of Ethics Policy that prohibits conflicts of interest and requires representatives of the Fund to act with the highest level of ethical responsibility in the performance of their duties. All Trustees, employees, professionals and vendors are required to acknowledge their understanding of the policy on an annual basis.

Investment Policies and Operating Guidelines Review

The Investment Policies and Operating Guidelines may be amended or modified from time to time by the Trustees, in the manner provided in the PSRSSTL Rules and Regulations, upon consideration of the advice and recommendations from the System's retained professionals, including the actuary, accountant, investment managers, investment consultant, and attorney. The Investment Policies and Operating Guidelines are regularly reviewed by the Board of Trustees to ensure their relevance to the current needs of the Fund and to communicate any material changes thereto to the investment managers.

To view or print the PSRSSTL Investment Policies and Guidelines, please visit
www.psrsstl.org/about-us/rules-regulations-statutes/

For the fiscal year ended December 31, 2022, the System's portfolio posted a loss of -10.98, ranking 20th within the InvestmentMetrics Universe of Public Funds. For the three-year and five-year periods ending December 31, 2022, the System's portfolio ranked 47th and 69th, returning 3.79% and 4.52%, respectively.

Investment returns for the System's total portfolio and asset class components for one-year, three-year and five-year periods ending December 31, 2022 are set forth below:

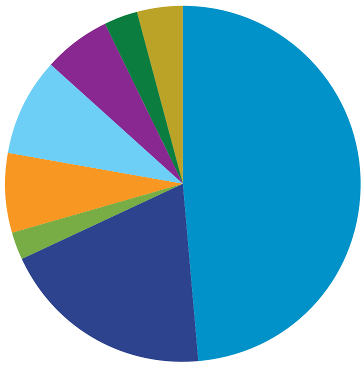
	Annualized Returns for Periods Ended[1] *December 31, 2022, gross of fees*		
Investment Category	**One Year**	**Three Years**	**Five Years**
PSRS Total Portfolio	-10.98%	3.79%	4.52%
Allocation Index[2]	-12.12%	3.36%	4.45%
PSRS Domestic Equity	-16.97%	6.37%	7.82%
Russell 3000	-19.21%	7.07%	8.79%
PSRS International Equity	-11.85%	2.64%	2.21%
MSCI EAFE	-14.45%	0.87%	1.54%
PSRS Emerging Market Equity	-19.07%	-2.52%	-0.18%
MSCI Emerging Markets	-20.09%	-2.69%	-1.40%
PSRS Global Equity	-16.42%	3.67%	5.07%
MSCI All Country World	-18.70%	4.71%	5.99%
PSRS Global Asset Allocation	-12.90%	1.38%	2.79%
60% MSCI World 40% FTSE WGBI	-17.39%	1.15%	3.06%
PSRS Fixed Income	-12.02%	-1.00%	0.72%
Barclays US Aggregate	-12.47%	-2.51%	0.15%
PSRS Hedge Funds	-2.06%	6.66%	4.69%
HFRI FOFs Composite	-5.30%	3.69%	3.06%
PSRS Real Estate	4.61%	6.00%	6.26%
NCREIF	16.08%	9.91%	8.62%

[1]The investment returns in the schedule are annualized by calculating the time weighted rates of return for the time periods.

[2]The Allocation Index is comprised of various equity, fixed income, hedge fund, real estate and Treasury bill indices in proportion to the asset weights within the System.

Following is the System's asset allocation at the fiscal year ended December 31, 2022:

December 31, 2022: $806,957,220

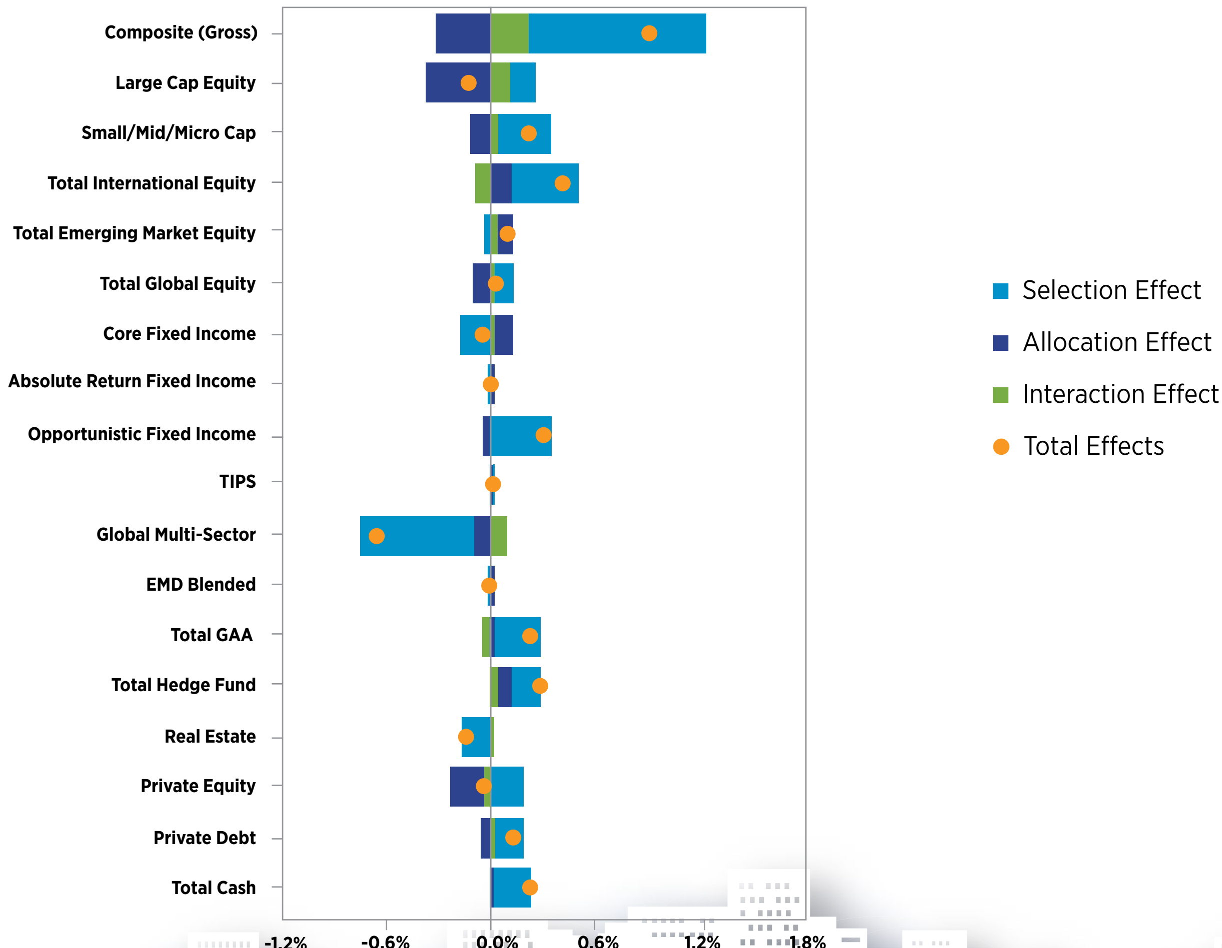


Allocation

	Market Value	Allocation
Equity	$393,993,428	48.8
Fixed Income	$156,086,108	19.3
GAA	$21,294,032	2.6
Hedge Fund	$58,380,330	7.2
Real Estate	$70,675, 206	8.8
Private Equity	$48,412,485	6.0
Private Debt	$26,655,400	3.3
Cash	$31,460,231	3.9

Following is the System's relative performance attribution by asset class for the fiscal year ended December 31, 2022:

Attribution Effects Relative to Allocation Index 1 Year Ending December 31, 2022



Schedule of Investments Year Ended December 31, 2022

Investment Category	% of FV	Fair Value (FV)	Cost	FV Over (Under) Cost
Cash Equivalents	5.24%	$ 42,341,245	$ 42,341,245	$ 0
U.S. Government and Agency Issues	3.50%	27,967,198	31,627,324	(3,660,126)
Corporate Bonds	3.00%	24,014,626	29,204,790	(5,190,164)
Foreign Investments (bonds & stocks)	10.16%	82,019,025	83,030,978	(1,011,953)
Common and Preferred Stocks	22.75%	183,586,017	157,451,421	26,134,596
Mutual and Co-Mingled Funds	37.25%	300,787,261	207,776,469	93,010,792
Real Estate Partnerships	7.00%	56,478,101	71,057,149	(14,579,048)
Limited Partnerships	11.10%	89,578,769	85,428,316	4,150,453
Total	100.0%	$806,772,242	$707,917,692	$98,854,550

Fair Value of All Assets Years Ended December 31, 2020 – 2022

	December 31, 2020		December 31, 2021		December 31, 2022	
Investment Category	Fair Value	Total	Fair Value	Total	Fair Value	Total
Cash, Receivables, Cash Equivalents	$ 56,332,300	6.14%	$ 51,328,283	5.26%	$ 53,441,471	5.23%
Property and Building	1,571,742	0.17%	1,520,115	0.16%	1,468,488	0.18%
U.S. Government & Agency Issued Bonds	30,541,742	3.33%	28,800,098	2.95%	27,967,198	3.45%
Corporate Bonds	28,625,293	3.12%	32,828,877	3.38%	24,014,626	3.00%
Foreign Investments (bonds and stocks)	91,225,646	9.94%	94,236,786	9.66%	82,019,025	10.14%
Common and Preferred Stocks	209,538,964	22.84%	230,724,806	23.67%	183,586,017	22.70%
Mutual and Co-Mingled Funds	389,396,506	42.44%	402,073,191	41.24%	300,787,261	37.19%
Real Estate Partnerships	46,928,887	5.11%	54,001,917	5.54%	56,478,101	7.00%
Limited Partnerships	62,928,944	6.86%	79,213,149	8.12%	89,578,769	11.07%
Other Assets	480,318	0.05%	214,501	0.02%	331,381	0.04%
Total	$895,621,204	100.0%	$974,941,723	100.0%	$819,672,337	100.0%

Asset Allocation and Investment Managers As of December 31, 2022

		Relative to Total Portfolio						Asset Class	
Asset Class		**Fair Value**		**Target Value**		**Variance**		**Fair Value**	
Money Managers	**Management Style**	**Value**	**%**	**Value**	**%**	**Value**	**%**	**Value**	**%**
Large Cap Growth Domestic Equities		43,809	5.4%	40,540	5.0%	3,269	0.4%		
Intech	Large Cap Growth							17,636	40.3%
TCW Asset Management	Large Cap Growth							26,173	59.7%
Large Cap Core Domestic Equities		21,563	2.7%	16,216	2.0%	5,347	0.7%		
Mellon Stock Index Fund	Large Cap Core							21,563	100.0%
Large Cap Value Domestic Equities		73,499	9.1%	40,540	5.0%	32,959	4.1%		
The Edgar Lomax Company	Large Cap Value							73,499	100.0%
Mid/Small/Micro Cap Domestic Equities		79,074	9.8%	72,973	9.0%	6,101	0.8%		
Westfield Capital Management	Small Cap Growth							24,357	30.8%
Systematic Financial Management	Small Cap Value							31,073	39.3%
Dimensional Fund Advisors (DFA)	Micro Cap							23,644	29.9%
Global Tactical Asset Allocation		21,294	2.6%	24,324	3.0%	(3,030)	-0.4%		
GMO	Balanced Fund							0	0.0%
Mellon Global Alpha	Balanced Fund							0	0.0%
PIMCO	Balanced Fund							21,294	100.0%
Global Equities		51,308	6.3%	40,540	5.0%	10,768	1.3%		
ARGA	Global Equities							9,697	18.9%
Transition Account	Global Equities							1	0.0%
Foresight Global Investors (FGI)	Global Equities							17,122	33.4%
Martin Investment Management (MIM)	Global Equities							14,389	28.0%
Redwood Global	Global Equities							10,099	19.7%
International Equities		124,741	15.4%	178,378	22.0%	(53,637)	-6.6%		
Dimensional Fund Advisors (DFA)	Emerging Markets							18,019	14.4%
Invesco Trust Company	Emerging Markets							16,264	13.0%
Open	Emerging Markets Small Cap							0	0.0%
Fidelity Institutional Asset Management	International Equities							42,378	34.0%
Causeway	International Equities							48,080	38.5%
Core Domestic Bonds		56,600	7.0%	81,081	10.0%	(24,481)	-3.0%		
EARNEST Partners	Core Domestic Bonds							10,633	18.8%
Manulife Investment Management	Core Domestic Bonds							35,061	61.9%
Xponance, Inc. (formerly Piedmont Investment Advisors)	Core Domestic Bonds							10,906	19.3%
Absolute Return Domestic Bonds		30,954	3.8%	36,486	4.5%	(5,532)	-0.7%		
Loomis Sayles	Unconstrained Fixed Income							30,954	100.0%
Treasury Inflation-Protected Securities		21,324	2.6%	24,324	3.0%	(3,000)	-0.4%		
Mellon TIPS Index Fund	TIPS							21,324	100.0%
Emerging Markets Debt		21,351	2.6%	24,324	3.0%	(2,973)	0.4%		
Lazard Asset Management	Emerging Markets							21,351	0.0%
Global Multi-Sector Bonds		25,857	3.2%	36,486	4.5%	(10,629)	-1.3%		
Neuberger Berman Trust Co.	Global Opportunistic Bonds							25,857	100.0%
Hedged Strategies		59,649	7.4%	40,540	5.0%	19,109	2.4%		
EnTrustPermal[2]	Fund of Funds							1,533	2.6%
Grosvenor Capital Management	Fund of Funds							33,525	56.2%
Whitebox Advisors	Multi-Strategy Direct							24,591	41.2%
Real Estate		59,110	7.3%	56,756	7.0%	2,354	0.3%		
UBS Trumbull Property & Income Funds	Commercial Real Estate							59,110	100.0%
Private Markets		89,214	11.0%	97,297	12.0%	(8,083)	-1.0%		
Private Equity, Private Debt, Private Real Estate	Limited Partnerships							89,214	100.0%
Cash		31,460	3.9%	0	0.0%	31,460	3.9%		
U.S. Bank (checking & operating accounts)	Cash Accounts							31,460	
Total (000's Omitted)		**$810,807**	**100.0%**	**$810,807**	**100.0%**			**$810,807**	

Portfolio Characteristics Total Domestic Equity SMAs As of December 31, 2022

Portfolio Characteristics (Benchmark: Russell 3000 Index)	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap ($)	168,775,485,960	354,763,906,773
Median Mkt. Cap ($)	9,182,846,920	1,954,238,280
Price/Earnings Ratio	14.8	18.1
Price/Book Ratio	2.9	3.6
5 Yr. EPS Growth Rate (%)	17.4	17.9
Current Yield (%)	2.1	1.7
Beta (5 Years, Monthly)	0.99	1.00
Number of Stocks	423	2,960

Top Ten Equity Holdings (Benchmark: Russell 3000 Index)	Port Wt	Bench Wt
Merck & Co Inc	2.4	0.7
General Dynamics Corp	2.0	0.2
Metlife Inc.	2.0	0.1
Chevron Corp	1.9	0.9
CVS Health Corp	1.9	0.3
Coca-Cola Co (The)	1.8	0.7
Exxon Mobil Corp	1.7	1.2
Microsoft Corp	1.6	4.8
Verizon Communications Inc	1.6	0.4
Walgreens Boots Alliance Inc	1.5	0.1
% of Portfolio	18.4	9.4

Top Ten Contributors (Benchmark: Russell 3000 Index)					
	Port Wt	**Bench Wt**	**Active Wt**	**1 Year Return**	**CTR (%)**
Exxon Mobil Corp	1.3	0.5	0.8	87.4	1.2
Chevron Corp	1.4	0.5	0.9	58.5	0.8
Merck & Co Inc	0.9	0.4	0.5	49.4	0.4
Metlife Inc.	1.8	0.1	1.7	19.2	0.3
General Dynamics Corp	1.1	0.1	1.0	21.7	0.2
The Allstate Corporation	1.3	0.1	1.2	18.3	0.2
Amgen Inc	1.1	0.3	0.8	20.4	0.2
Conocophillips	0.3	0.2	0.1	70.9	0.2
AbbVie Inc	0.8	0.5	0.3	24.0	0.2
Haemonetics Corp	0.3	0.0	0.3	48.3	0.1
% of Portfolio	10.3	2.7	7.6		4.0

Top Ten Detractors (Benchmark: Russell 3000 Index)					
	Port Wt	**Bench Wt**	**Active Wt**	**1 Year Return**	**CTR (%)**
Meta Platforms Inc	1.3	1.7	-0.4	-64.2	-0.8
Amazon.com Inc	1.7	3.0	-1.3	-49.6	-0.8
NVIDIA Corporation	1.5	1.5	0.0	-50.3	-0.8
Adobe Inc	1.6	0.6	1.0	-40.7	-0.7
Alphabet Inc	1.4	1.7	-0.3	-38.7	-0.6
Netflix Inc	1.1	0.5	0.6	-51.1	-0.5
ServiceNow Inc	1.1	0.3	0.8	-40.2	-0.4
Apple Inc	1.5	5.7	-4.2	-26.4	-0.4
Align Technology Inc	0.6	0.1	0.5	-67.9	-0.4
PayPal Holdings Inc	0.6	0.5	0.1	-62.2	-0.4
% of Portfolio	12.4	15.6	-3.2		-5.8

Domestic Bond Investments

A complete list of portfolio holdings is available for a fee based on preparation time and the cost of materials. The information shown reflects securities held for the fiscal year ended December 31, 2022, excluding pooled or mutual funds.

PSRSSTL Domestic Bond Portfolio Performance & Characteristics

2022 Return	-15.5%
Average Yield to Maturity	5.6%
Average Duration	6.4 Years
Average Quality Rating	AA / A
Five-Year Annualized Return	0.1%

PSRSSTL Domestic Bond Portfolio Quality Ratings	Percentage of PSRSSTL Domestic Bond Portfolio (%)
AAA	61.7
AA	1.6
A	11.1
BBB	20.1
BB and Below	5.5
Not Rated	0.1

Brokerage Commissions Paid Year Ended December 31, 2022

Company	Commissions
BAIRD & COMPANY	$1,151.83
BARCLAYS CAPITAL	$2,413.52
BMO CAPITAL MARKETS	$563.92
BOFA SECURITIES, INC.	$604.78
BTIG, LLC	$29.60
CACEIS BANK	$19.82
CANACCORD GENUITY INC.	$5.60
CANTOR FITZGERALD & CO.	$35.08
CAP INSTITUTIONAL SERVICES INC	$8,398.00
CDSL	$150.60
CIBC WORLD MARKET SECURITIES	$122.42
CITIGROUP	$21,425.72
CL KING	$2,263.50
CLSA	$1,277.33
COWEN AND COMPANY, LLC	$1,580.27
CREDIT SUISSE SECURITIES	$5,412.33
DAIWA	$184.58
EUROMOBILIARE	$191.28
EVERCORE	$1,338.89
EXANE	$1,985.13
GOLDMAN SACHS & CO. LLC	$2,992.73
GUGGENHEIM SECURITIES, LLC	$81.20
GUZMAN & COMPANY	$3,948.46
HONG KONG BANK	$714.80
HSBC SECURITIES, Inc.	$2,264.77
INSTINET	$16,917.07
JB CAPITAL MARKETS	$15.78
J.P. MORGAN SECURITIES LLC	$4,154.91
JANNEY MONTGOMERY SCOTT INC.	$133.60
JEFFERIES LLC	$26,898.86
JMP SECURITIES	$366.40
JONES TRADING	$186.60
KEEFE BRUYETTE AND WOODS INC.	$139.60
KEPLER	$4,626.30
KEYBANC CAPITAL MARKETS INC	$205.20
LIQUIDNET INC	$3,387.00
LOOP CAPITAL MARKETS	$2,844.84

Brokerage Commissions Paid Year Ended December 31, 2022 continued

Company	Commissions
LUMINEX TRADING AND ANALYTICS	$562.77
LOOP CAPITAL MARKETS	$2,844.84
LUMINEX TRADING AND ANALYTICS	$562.77
MACQUARIE SECURITIES INC	$985.09
MERRILL LYNCH	$1,726.10
MISCHLER FINANCIAL GROUP, INC	$7,141.76
MIZUHO	$401.91
MIZUHO SECURITIES, INC.	$12.00
MKM PARTNERS LLC	$230.00
MORGAN STANLEY & CO. LLC	$2,570.39
NATIONAL FINANCIAL SERVICES CO	$10.00
NEEDHAM AND COMPANY LLC	$277.32
O'NEIL SECURITIES INC.	$281.60
OPPENHEIMER & CO. INC.	$88.80
PARIBAS	$1,823.53
PENSERRA SECURITIES	$309.63
PERSHING LLC	$4,625.98
PICTET	$879.11
PIPER SANDLER & CO	$5,827.54
RAYMOND JAMES & ASSOCIATES INC	$393.40
RBC CAPITAL MARKETS, LLC	$188.80
ROSENBLATT SECURITIES	$801.05
SANFORD C. BERNSTEIN & CO., LL	$3,868.57
SG SECURITIES,	$1,744.43
STATE STREET	$4,040.40
STEPHENS INC	$13.00
STIFEL, NICOLAUS & CO.,INC.	$444.57
STRATEGAS SECURITIES LLC	$55.51
STURDIVANT	$8,280.39
SVB LEERINK LLC	$413.60
TRUIST SECURITIES INC.	$419.17
UBS SECURITIES LLC	$8287.50
VIRTU AMERICAS LLC	$2,126.12
WEDBUSH SECURITIES INC.	$314.00
WELLS FARGO SECURITIES, LLC	$410.80
WILLIAM BLAIR & COMPANY, L.L.C	$625.11
Total	$173,833.08

Investment Management Fees and Expenses Years Ended December 31, 2022 and 2021

	2022	2021
Investment management fees		
Causeway Capital Management	$ 271,509	$ 307,069
Earnest Partners	27,273	30,288
Edgar Lomax Company	304,663	317,391
Entrust Capital Diversified Fund LTD	-	7,832
Fidelity Institutional Asset Management	260,145	300,452
Invesco Global Performance	241,022	-
Intech Investment Management	104,662	165,103
Lazard Asset Management	198,127	228,391
Loomis Sayles & Company, LP	229,110	236,578
Manulife Asset Management	107,816	120,539
Mellon Capital Management	11,658	63,728
NCM Capital	-	31,488
OFI Global Asset Management	-	308,953
Strategic Global	-	-
Systematic Financial Management	287,904	335,560
TCW Asset Management Company	181,253	240,197
UBS Realty Investors LLC	474,421	408,033
US Bank Trust	102,682	110,060
Westfield Capital Management	246,637	323,714
Whitebox Multi-Strategy Fund, L.P.	355,046	320,923
Xponance	300,166	327,567
Total Investment Management Fees	3,704,094	4,183,866
NEPC, LLC	-	189,414
AndCo, LLC	189,250	-
Banking services	31,136	42,201
Total Investment Expenses	$3,924,480	$4,415,481

Actuarial Section

"through benefit programs and services which are soundly financed and...

231 South Bemiston
Suite 400
Clayton, MO 63105

June 2022

Ms. Susan Kane
Executive Director
PSRS of the City of St. Louis
3641 Olive Street, Suite 300
St. Louis, MO 63108-3601

Re: Actuarial Certification of January 1, 2022 Valuation

Dear Members of the Public School Retirement System of the City of St. Louis Board:

Buck Global, LLC (Buck) has been retained to complete the actuarial valuation for the Public School Retirement System of the City of St. Louis ("System") for the plan year beginning January 1, 2022. The results of that valuation are included in this report.

The computations herein were performed as of January 1, 2022. They were determined on the basis of employee data and financial data furnished as of January 1, 2022 and December 31, 2021, respectively, by System staff. The actuary did not verify the data submitted but did perform tests for consistency and reasonableness.

The purposes of the valuation are to:

(1) determine the required annual contributions from the board of education, the retirement system, and the charter schools; and

(2) present the valuation results of the System as of January 1, 2022.

This report is submitted in accordance with Section 169.450-16 Revised Statutes of Missouri (R.S. Mo.). The required contribution to the System from the board of education, the retirement system, and the charter schools is computed in accordance with Section 169.490 R.S. Mo. The amount of the required contribution is stated in the Determination of the Actuarially Determined Employer Contributions (ADEC) Section. Information with respect to financial disclosures under GASB 67 and 68 may be found in a separate report.

The following tables and information contained in the Actuarial Section of the Public School Retirement System of the City of St. Louis, Missouri Annual Comprehensive Financial Report were prepared by Buck:

- Report Highlights
- Summary and Comparison of Principal Valuation Results
- Analysis of the Valuation
- Determination of the Actuarially Determined Employer Contributions (ADEC)
- Required Annual Contribution
- Development of Actuarial Experience Gain/(Loss)
- Actuarial Balance Sheet as of January 1, 2022
- Prioritized Solvency Test
- Schedule of Funding Progress
- Development of the Actuarial Value of Assets
- The Expense and Contingency Reserve
- Investment Performance
- Summary of Investment Yield Performance
- Summary of Plan Provisions
- Member Census Information
- Distribution of Active Members
- Schedule of Retirees and Beneficiaries Added/Removed from Rolls
- Summary of Methods and Assumptions

In preparing this valuation, we have employed generally accepted actuarial methods and assumptions, in conjunction with member data and financial information provided to us by the System, to determine a reasonable and sound value for the System liability. The member data has not been audited, but it has been reviewed and found to be consistent, both internally and with prior years' data. The validity of the valuation results is dependent upon the accuracy of the data and financial information provided.

In our opinion, the actuarial assumptions used are reasonable, taking into account the experience of the System and reasonable long-term expectations, and represent our best estimate of the anticipated long-term experience under the System. The actuary performs an analysis of System experience periodically and recommends changes if, in the opinion of the actuary, assumption changes are needed to more accurately reflect expected future experience. The Experience Study for the period January 1, 2016 to December 31, 2020 was prepared by Buck and approved by the Board for use beginning with the January 1, 2022 actuarial valuation and will remain in effect for valuation purposes until such time as the Board adopts revised assumptions. The next Experience Study will be based on the period from January 1, 2021 to December 31, 2025 and upon approval by the Board will be the basis of valuations performed from January 1, 2026 through January 1, 2031. A summary of all assumptions and methods is presented in the Summary of Methods and Assumptions Section.

Where presented, references to "funded ratio" and "unfunded accrued liability" typically are measured on an actuarial value of assets basis. It should be noted that the same measurements using market value of assets would result in different funded ratios and unfunded accrued liabilities. Moreover, the funded ratio presented is appropriate for evaluating the need and level of future contributions but makes no assessment regarding the funded status of the plan if the plan were to settle (i.e. purchase annuities) for a portion or all of its liabilities.

Future actuarial measurements and contribution requirements may differ from those determined in the valuation because of:

(1) differences between actual experience and anticipated experience based on the assumptions;

(2) changes in actuarial assumptions or methods;

(3) changes in statutory provisions;

(4) differences between actuarially required contributions and actual contributions.

Buck prepared this report for use by the Retirement System and its auditors in reviewing the operation of the System, including the determination of contributions to be made to the System. Use of this report by other parties or for any other purpose may not be appropriate and may result in mistaken conclusions due to failure to understand applicable assumptions, methodologies, or the inapplicability of the report for that purpose. Because of the risk of misinterpretation of actuarial results, Buck recommends requesting its advance review of any statement, document, or filing to be based on information contained in this report. Buck will accept no liability for any such statement, document or filing made without its prior review.

Actuarial Standards of Practice ("ASOPs") 27 and 35 ask the actuary to disclose the information and analysis used to support the actuary's determination that the assumptions selected by the plan sponsor do not significantly conflict with what, in the actuary's professional judgment, are reasonable for the purpose of the measurement. In the case of the plan sponsor's selection of expected return on assets ("EROA"), the signing actuaries have used economic information and tools provided by Buck's Financial Risk Management ("FRM") practice. A spreadsheet tool created by the FRM team converts averages, standard deviations, and correlations from Buck's Capital Markets Assumptions ("CMA") that are used for stochastic forecasting into approximate percentile ranges for the arithmetic and geometric average returns. It is intended to suggest possible reasonable ranges for EROA without attempting to predict or select a specific best estimate rate of return. It takes into account the duration (horizon) of investment and the target allocation of assets in the portfolio to various asset classes. Based on the actuary's analysis, including consistency with other assumptions used in the valuation and the percentiles generated by the spreadsheet described above, the actuary believes the EROA does not significantly conflict with what, in the actuary's professional judgment, is reasonable for the purpose of the measurement.

Actuarial Standard of Practice No. 56 provides guidance to actuaries when performing actuarial services with respect to designing, developing, selecting, modifying, using, reviewing, or evaluating models. Buck uses third-party software in the performance of annual actuarial valuations and projections. The model is intended to calculate the liabilities associated with the provisions of the plan using data and assumptions as of the measurement date under the funding rules specified in this report. The output from the third-party vendor software is used as input to an internally developed model that applies applicable funding rules to the derived liabilities and other inputs, such as plan assets and contributions, to generate many of the exhibits found in this report. Buck has an extensive review process in which the results of the liability calculations are checked using detailed sample life output, changes from year to year are summarized by source, and significant deviations from expectations are investigated. Other funding outputs and the internal model are similarly reviewed in detail and at a higher level for accuracy, reasonability, and consistency with prior results. Buck also reviews the third-party model when significant changes are made to the software. This review is performed by experts within Buck who are familiar with applicable funding rules, as well as the manner in which the model generates its output. If significant changes are made to the internal model, extra checking and review are completed. Significant changes to the internal model that are applicable to multiple clients are generally developed, checked, and reviewed by multiple experts within Buck who are familiar with the details of the required changes.

The undersigned meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein, and is available to answer questions regarding this report.

We believe that the assumptions and methods used for funding purposes are individually and in aggregate, reasonable and in combination represent a best estimate of anticipated experience under the plan and meet the parameters set by the Actuarial Standards of Practice (ASOPs). We believe that this report conforms with the requirements of the Missouri statutes, and where applicable, other federal and accounting laws, regulations and rules, as well as actuarial principles and practices in accordance with all ASOPs.

Sincerely,

Michael A. Ribble, FSA, EA, MAAA, FCA
Principal, Wealth Consulting

Matthew Staback, FSA, EA, MAAA, CERA, FCA
Senior Consultant, Wealth Consulting

Buck Global, LLC (Buck)

Report Highlights

This report has been prepared by Buck to:

- Present the results of a valuation of the Public School Retirement System of the City of St. Louis ("System") as of January 1, 2022; and
- Determine the required annual contribution for 2023.

This report is divided into four sections:

Section 1 contains the results of the valuation. It includes the experience of the System during the 2021 plan year, the actuarially required costs, and funded levels.

Section 2 contains asset information. It includes market value of assets, the calculation of actuarial value of assets, the expense & contingency reserve, and asset returns.

Section 3 describes the basis of the valuation. It summarizes the System provisions, provides information relating to the System members, and describes the funding methods and actuarial assumptions used in determining liabilities and costs. Also included is historical information about the System.

Section 4 contains the Actuarial Standards of Practice (ASOP) 51 disclosure. This section will provide insight of potential risks to the system.

Experience Gains and Losses

Actuarial gains (or losses) result from differences between the actual experience of the System and the expected experience based upon the actuarial assumptions. Annual gains (or losses) should be expected because short-term deviations from expected long-term average experience are common.

For the 2021 plan year, total (net) actuarial gain due to plan experience was about $27.0 million. The experience may be broken into two components:

1. **Investment:** Approximately $36.9 million gain is attributable to the System's actuarial rate of return on assets, which was 11.76% for plan year 2021, or 4.26% higher than the assumed rate of return of 7.50%. A sizeable portion of the gain resulted from the implementation of a new actuarial value of assets (AVA) method for this valuation. Under the new method, the AVA was set equal to the market value of assets less expense & contingency reserve as of January 1, 2022. By comparison, the rate of return on the market value of assets during plan year 2021 was 12.51%.

2. **Actuarial Liability:** Approximately $9.9 million loss is attributable to the demographic experience of the Plan. The Plan experienced higher than expected salary increases during 2021, which was the main source of the loss. However, the Plan's total liability loss was mitigated by actuarial gains resulting from higher than expected terminations (prior to retirement eligibility) during 2021.

Actuarial Assumption and Method Changes

For the 2022 valuation, significant actuarial assumption and method changes were implemented as a result of the experience study completed in December 2021. The assumptions changes increased the Actuarial Accrued Liability as of January 1, 2022 by approximately $12.3 million. A detailed description of the actuarial assumptions and methods appears in section 3.8.

Normal Cost

The annual normal cost contribution with an interest adjustment increased from $17,821,684 in 2021 to $22,318,781 in 2022. This increase is primarily due to the changes in the Plan's actuarial cost method to Entry Age Normal. Covered payroll decreased from $264.7 million to $259.4 million. The annual normal cost rate as a percentage of covered payroll increased from 6.73% in 2021 to 8.60% in 2022. It should be noted that the 2021 normal cost rate was reduced by about 8.56% of covered payroll to account for expected member contributions. For 2022, the expected member contributions are accounted for in the Actuarially Determined Employer Contribution.

Amortization Payment of Unfunded Actuarial Accrued Liability

The actuarial accrued liability contribution is determined as the amount necessary to amortize the remaining Unfunded Actuarial Accrued Liability (UAAL) over a period of 15 years from January 1, 2022. The Board of Trustees acted to redetermine the UAAL for the January 1, 2022 Valuation. The Plan implemented a 15-year, level dollar, closed amortization period with layered amortization for future changes. The initial UAAL will be paid off in 15 years. Any deviations in UAAL due to actuarial gains and losses, assumptions changes, and plan amendments will be amortized over a new 15-year period. As a result of the changes in method, the total amortization payment increased from $27,438,261 to $35,732,356. The amortization payment component of the contribution rate increased from 10.37% to 13.77% of covered payroll.

Actuarially Determined Employer Contribution

The Actuarially Determined Employer Contribution (ADEC) is determined annually and equals the normal cost with an interest adjustment plus the Amortization Payment of UAAL with an interest adjustment less expected member contributions. Expected member contributions for 2022 were 8.10% of covered payroll. For plan year 2022, the actuarially determined employer contribution is $37,037,171, as compared to $45,259,945 for plan year 2021. This decrease is primarily due to the changes in assumptions and methods from the 2021 Experience Study, the large asset gain in 2021, and resetting the actuarial value of assets equal to the market value of assets less expense & contingency reserve. The total employer cost rate decreased from 17.10% to 14.28%.

Required Contribution and Timing

In 2001, the Board of Education agreed to institute a one-year lag for payments of the annual required contributions due from SLPS for future years. Therefore, this actuarial valuation is used to determine the annual required contribution (ARC) payment from SLPS for plan year 2022, due to the Plan no later than December 31, 2023. Due to legislation passed August 28, 2017, the contribution rate is set as a fixed percentage rather than an actuarially determined percentage. Because of the statutory required contribution rate, the dollar amount of the ARC due from SLPS no later than December 31, 2023, decreased from $26,692,454 for plan year 2021 to $23,639,359 for plan year 2022.

As a percentage of covered payroll in plan year 2022, the contribution rate decreased from 14.50% for plan year 2021 to 14.00% for plan year 2022. Charter Schools pay both employer and member contributions as they occur shortly after each payroll period; therefore, this actuarial valuation is used to determine the contribution rate of 14.00% that Charter Schools should be paying beginning with payroll periods ending on or after January 1, 2022.

According to the 2022 Actuarial Valuation Results and timing of payments found in this report, it is important to note that on an actuarially determined and sound basis, SLPS and the Charter Schools should be paying an annual contribution rate of 14.28% versus the 14.00% contribution rate for plan year 2022 as required by statute. The effects on the System's actuarial soundness due to the decreasing statutory required contribution rate schedule will be presented in future annual actuarial valuation reports as they occur.

Summary and Comparison of Principal Valuation Results

Annual Required Contribution

2022	Board of Education	Retirement System	Charter Schools	Total
Normal Cost Contribution	$ 14,525,814	$ 50,353	$ 7,742,614	$ 22,318,781
Actuarial Accrued Liability Contribution	23,255,821	80,615	12,395,920	35,732,356
Member Contributions	(13,676,596)	(47,410)	(7,289,960)	(21,013,966)
Actuarially Determined Contribution (ADC)	24,105,039	83,558	12,848,574	37,037,171
Covered Payroll	168,852,563	585,315	90,002,539	259,440,417
ADC as % of Covered Payroll	14.28%	14.28%	14.28%	14.28%
Statutory Required Contribution Rate	14.00%	14.00%	14.00%	14.00%
Statutory Annual Required Contribution (ARC)	$ 23,639,359	$ 81,944	$12,600,355	$ 36,321,658
2021				
Normal Cost Contribution	$ 12,395,193	$ 37,245	$ 5,389,246	$ 17,821,684
Actuarial Accrued Liability Contribution	19,083,636	57,343	8,297,282	27,438,261
Actuarially Determined Contribution (ADC)	31,478,829	94,588	13,686,528	45,259,945
Covered Payroll	$184,085,888	$553,144	$80,037,813	$264,676,845
ADC as % of Covered Payroll	17.10%	17.10%	17.10%	17.10%
Statutory Required Contribution Rate	14.50%	14.50%	14.50%	14.50%
Statutory Annual Required Contribution (ARC)	$ 26,692,454	$ 80,206	$11,605,483	$ 38,378,143

	January 1, 2022	January 1, 2021
System Assets		
Expense and Contingency Reserve	$ 29,625,803	$ 30,004,728
Market Value, Excluding Expense & Contingency Reserve	$ 943,201,853	$ 884,772,226
Actuarial Value	$ 943,201,853	$ 894,251,149
System Liabilities		
Unfunded Actuarial Accrued Liability[1]	$ 336,645,221	$ 242,200,815
Entry Age Normal (EAN) Actuarial Accrued Liability	$1,279,847,074	$1,257,782,934
EAN Funding Ratio		
Actuarial Value Funding Ratio	73.7%	71.1%

[1] January 1, 2021 UAAL calculated on the Frozen Entry Age actuarial cost method on the Plan's unfunded actuarial accrued liability reestablished on January 1, 2006. January 1, 2022 UAAL calculated on the Entry Age Normal cost method.

Analysis of the Valuation

(1) Investment Experience

Our actuarial calculations were based upon the assumption that the System's assets earn 7.50% for 2021. The approximate market value rate of return during 2021 was 12.51%. The approximate actuarial value rate of return was 11.76%. The actuarial value rate of return accounts for the Plan's actuarial value of assets being reset as of January 1, 2022 equal to market value of assets less expense & contingency reserve.

(2) Demographic Experience

The number of active members decreased from 4,984 to 4,594 for the period. The average service of active members decreased from 8.15 to 8.11, the average age increased slightly, and the average covered payroll increased by $3,369 (6.3%). There were small changes in the inactive statistics. The membership statistics are provided in Sections 3.3 through 3.7 of this report.

(3) Salary Increases

The average covered payroll increased by 6.3% between January 1, 2021 and January 1, 2022.
Total annual covered payroll decreased by 2.0% between January 1, 2021 and January 1, 2022.

(4) Changes in Methods from the Prior Valuation

A full detail summary of the methods can be found in section 3.8 of the report. The Experience Study for the period January 1, 2016 to December 31, 2020 was prepared by Buck and approved by the Board for use beginning with the January 1, 2022 actuarial valuation. The following changes in methods have been made effective with the January 1, 2022 valuation:

1. Actuarial value of assets set equal to market value of assets less expense and contingency reserve as of January 1, 2022.
2. Five-year smoothing of assets based on difference between the actual investment income and expected for 2022 and later years.
3. Limit the actuarial value of assets to not less than 80% and not greater than 120% of the market value of assets less expense and contingency reserve.
4. Plan's actuarial cost method changed from Unfunded Frozen Actuarial Accrued Liability to Entry Age Normal Actuarial Accrued Liability.
5. Implemented a 15-year, level dollar, closed amortization period with layered amortization for future changes.
6. One-half year's interest adjustment at the valuation's interest rate to better reflect the timing of contributions.

(5) Changes in Assumptions from the Prior Valuation

A full detail summary of the assumptions can be found in section 3.8 of the report. The Experience Study for the period January 1, 2016 to December 31, 2020 was prepared by Buck and approved by the Board for use beginning with the January 1, 2022 actuarial valuation. The following changes in assumptions have been made effective with the January 1, 2022 valuation:

1. Lowered the investment return assumption from 7.50% to 7.00%, net of investment expenses.
2. Updated mortality from RP-2014 with mortality improvement scale MP-2015 to PubG-2010 (below median), amounted weighted with mortality improvement scale MP-2021.
3. Updated retirement, withdrawal, and disability rates.
4. Decreased the deferred vested members assumption from 150% to 125% of the member's total accumulated contributions.

(6) Changes in Benefit Provisions from the Prior Valuation

There have been no changes in provisions since the prior valuation.

(7) Other Changes

There have been no other changes since the prior valuation.

(8) Summary

The overall effect of experience during the period resulted in any increase change in the Entry Age Normal funding ratio utilizing the actuarial value of assets from 71.1% to 73.7%. The total actuarially determined contribution rate decreased from 17.10% to 14.28% of covered payroll.

Actuarial Balance Sheet as of January 1, 2022

Actuarial Assets	
Actuarial value of present assets	$ 943,201,853
Actuarial present value of future participant contributions	137,869,247
Actuarial present value of future employer contributions for:	328,250,874
Total present and future assets	$1,409,321,974
Actuarial Liabilities	
Actuarial present value of benefits now payable	$ 882,739,729
Actuarial present value of benefits payable in the future:	
Active participants	$ 468,600,536
Terminated vested participants	42,230,323
Terminated nonvested participants	15,751,386
Total payable in the future	$ 526,582,245
Total liabilities for benefits	$1,409,321,974
Surplus / (deficit)	0

Prioritized Solvency Test

Valuation Date January 1	Active Participants' Accumulated Contributions	Retirees, Beneficiaries and Inactive Participants	Active Participants (employer-financed)	Actuarial Value of Assets	Percent Covered by Valuation Assets		
	(1)	(2)	(3)		(1)	(2)	(3)
1999	130,705,014	276,290,128	303,953,494	694,250,672	100%	100%	95%
2000	129,398,364	353,852,977	288,213,016	770,090,498	100%	100%	100%
2001	127,086,325	414,052,293	269,590,438	828,097,298	100%	100%	100%
2002	116,506,785	476,104,516	372,221,726	861,128,076	100%	100%	72%
2003	115,570,837	492,633,382	361,818,972	873,260,102	100%	100%	73%
2004	106,021,476	528,287,121	364,459,284	901,996,455	100%	100%	73%
2005	89,710,662	518,880,414	368,306,240	935,328,638	100%	100%	89%
2006	90,001,111	661,353,685	319,920,373	983,828,243	100%	100%	73%
2007	96,223,413	712,467,372	305,409,824	1,003,428,983	100%	100%	64%
2008	98,112,123	781,006,957	249,244,208	1,014,923,381	100%	100%	54%
2009	104,576,264	801,995,237	187,035,147	963,851,408	100%	100%	31%
2010	110,054,510	805,831,292	195,185,151	950,709,944	100%	100%	18%
2011	103,178,297	842,643,351	169,510,764	944,356,735	100%	100%	0%
2012	116,268,566	850,498,527	189,084,439	925,389,359	100%	95%	0%
2013	120,355,959	849,412,565	190,553,739	914,494,335	100%	93%	0%
2014	114,092,991	896,477,122	164,014,835	922,922,386	100%	90%	0%
2015	116,755,946	892,626,625	156,682,397	926,905,797	100%	91%	0%
2016	120,507,482	887,757,927	157,501,063	915,391,079	100%	90%	0%
2017	122,746,557	933,916,821	166,666,305	901,076,683	100%	83%	0%
2018	122,241,799	935,005,411	178,661,824	899,816,911	100%	83%	0%
2019	126,636,422	932,068,226	179,448,673	886,156,011	100%	81%	0%
2020	130,619,480	934,865,605	176,132,159	888,759,194	100%	81%	0%
2021	135,068,312	928,763,007	157,461,633	894,251,149	100%	82%	0%
2022[8]	137,779,168	940,721,438	201,346,468	943,201,853	100%	86%	0%

[8]Prioritized Solvency Test reflects Entry Age Normal effective January 1, 2022. Years prior to 2022 used Projected Unit Credit.

Development of the Actuarial Value of Assets

A. Market Value of Assets (MVA) on January 1, 2021	$ 914,776,954
B. Member contributions	20,880,189
C. Employer contributions	41,226,981
D. Benefits paid	(113,687,442)
E. Administrative Expenses	(1,523,071)
F. Investment return (net of investment expenses only)	111,154,045
G. Market Value of Assets on January 1, 2022	972,827,656
H. Expense and contingency reserve on January 1, 2021, prior to adjustment	29,625,803
I. MVA on January 1, 2022 minus Expense & Contingency Reserve (G. – H.)	943,201,853
J. Excess of market value over expected actuarial value, (7)– (6) – (8) – (9)	12.51%
K. Expected Return on Assets	N/A
L. Gain/(Loss)	
(a) 2021	N/A
(b) 2020	N/A
(c) 2019	N/A
(d) 2018	N/A
(e) 2017	N/A
M. Amount to be Recognized	
(a) 2021	N/A
(b) 2020	N/A
(c) 2019	N/A
(d) 2018	N/A
(e) 2017	N/A
N. Amount not Recognized	
(a) 2021 (Ma x 4/5)	N/A
(b) 2020 (Mb x 3/5)	N/A
(c) 2019 (Mc x 2/5)	N/A
(d) 2018 (Md x 1/5)	N/A
(e) 2017 (Me x 0/5)	N/A
(f) Total	$0
O. Market Value of Assets (MVA) on January 1, 2021	943,201,853
P. Member contributions	754,561,482
Q. Employer contributions	1,131,842,224
R. Benefits paid	943,201,853
S. Administrative Expenses	11.76%

[9]Actuarial Value of Assets set equal to Market Value of Assets less expense and contingency reserve as of January 1, 2022.

The Expense and Contingency Reserve

Effective January 1, 1996, the Board of Trustees revised Rule X, which governs the determination of the amount of the expense and contingency reserve. The expense portion of the reserve is the sum of:

1. The estimated annual operating expenses for the ensuing year;
2. An amount equal to the liability for non-insurance supplements;
3. An amount equal to the liability for insurance supplements for those participants participating in the program on January 1; and
4. The estimated amount of insurance supplements to be paid for participants expected to retire and participate in the program during the ensuing year.

The investment contingency portion of the reserve was established to help cover significant shortfalls in the actuarial rate of return. However, the entire contingency reserve was released in 2009.

Schedule of Funding Progress

Plan Year	Actuarial Value of Assets (AVA) (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b – a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b – a) / c)
1/1/2017	901,076,683	1,258,219,995	357,143,312	71.60%	260,223,066	137.2%
1/1/2018	899,816,911	1,266,012,715	366,195,804	71.10%	265,773,659	137.8%
1/1/2019	886,156,011	1,268,885,279	382,729,268	69.80%	263,772,380	145.1%
1/1/2020	888,759,194	1,274,573,564	385,814,370	69.70%	272,973,377	141.3%
1/1/2021	894,251,149	1,257,782,934	363,531,785	71.10%	264,676,845	137.3%
1/1/2022	943,201,853	1,279,847,074	336,645,221	73.70%	259,440,417	129.8%

Ten years of data is not available due to the recent change to Entry Age Normal Method.

Below is a history of the expense and contingency reserve:

January 1	Expense Reserve	Investment Contingency Reserve	Total Expense and Contingency Reserve
1998	$30,891,555	$24,100,041	$54,991,596
1999	22,142,759	45,972,067	68,114,826
2000	27,992,032	50,003,862	77,995,894
2001	29,837,776	50,003,743	79,841,519
2002	23,527,529	50,003,743	73,531,272
2003	24,952,255	37,759,976	62,712,231
2004	26,028,780	37,759,976	63,788,756
2005	27,170,188	45,115,876	72,286,064
2006	32,534,770	45,115,876	77,650,646
2007	29,864,946	50,732,410	80,597,356
2008	31,987,370	57,234,574	89,221,944
2009	30,555,388	0	30,555,388
2010	29,903,107	0	29,903,107
2011	29,480,465	0	29,480,465
2012	29,564,563	0	29,564,563
2013	29,181,897	0	29,181,897
2014	30,439,781	0	30,439,781
2015	29,868,370	0	29,868,370
2016	29,537,454	0	29,537,454
2017	30,921,897	0	30,921,897
2018	30,751,247	0	30,751,247
2019	30,776,068	0	30,776,068
2020	30,244,590	0	30,244,590
2021	30,004,728	0	30,004,728
2022	29,625,803	0	29,625,803

Investment Performance

There are several different methods of approximating the rates of return on investments of the trust fund. Following is a brief comparison of the actuarial assumed rate of return as compared with rates of return on market and actuarial value bases:

a. Market Value Basis

The rate of return on a market value basis is the ratio of the appreciation (or depreciation) of assets less contributions plus disbursements to the market value at the beginning of the year plus the average of the receipts and disbursements made during the year. This may be approximated as follows:

i. A = Market value of assets as of January 1, 2021	$914,776,954
ii. B = Market value of assets as of January 1, 2022	972,827,656
iii. C = Contributions during the period	62,107,170
iv. D = Disbursements during the period	115,210,513
v. Rate of return: $\frac{B - A + D - C}{A + 0.5 * (C - D)}$	12.51%
vi. Actuarial assumed rate of return for 2021	7.50%
vii. Difference between actual and assumed rates of return, (v) – (vi)	5.01%

b. Actuarial Value Basis

The rate of return on an actuarial value basis is approximated using the same method:

i. A = Actuarial value of assets as of January 1, 2021	$894,251,149
ii. B = Actuarial value of assets as of January 1, 2022	943,201,853
iii. C = Contributions during the period	62,107,170
iv. D = Disbursements during the period	115,210,513
v. Rate of return: $\frac{B - A + D - C}{A + 0.5 * (C - D)}$	11.76%
vi. Actuarial assumed rate of return for 2021	7.50%
vii. Difference between actual and assumed rates of return, (v) – (vi)	4.26%

Summary of Plan Provisions

Participants

All persons regularly employed by the board of education, charter schools, and members of the board of trustees are in the System.

Retirement Age

Normal: Age 65 or any age if age plus the years of credited service equals or exceeds 80 (Rule of 80).

Early: Age 60 with 5 years of service

Service Retirement Allowance

a. 2.00% (1.25% if terminated prior to July 1, 1999 or 1.75% if hired on or after January 1, 2018) times years of credited service, subject to a maximum of 60%

b. Times average final compensation (AFC)

c. Subject to a maximum of 60% of AFC.

   i. AFC is the highest average compensation for any three consecutive years of the last 10 years of service.

   ii. Compensation is the regular wages plus what the employer pays towards the participant's health and welfare benefits.

   iii. Minimum monthly benefit is $10.00 for each year of credited service, up to 15 years, retirement age 65 and over.

   iv. Unused sick leave is added to a participant's credited service and age.

Early Retirement Benefit

Service retirement allowance reduced five-ninths of one percent for each month of commencement prior to age 65 or the age at which the Rule of 80 (Rule of 85 if terminated prior to August 28, 2017) would have been satisfied had the member continued working until that age, if earlier.

Disability Benefit

Service retirement allowance using actual service, or 25% of AFC if larger, provided that in no case will the benefit exceed that payable if service had continued to age 65.

a. Disability must be incurred while a member as determined by the medical board and approved by the board of trustees.

b. The participant must have a minimum of five years of credited service and not be eligible for normal retirement.

Continued disability is subject to routine verification.

Withdrawal Benefit

Accumulated contributions of participant with interest credited to the participant's account.

Vested Benefit

Full vesting on termination of employment after at least five years of service is provided if contributions are left with the System. The full accrued benefit is payable at age 65 or a reduced early retirement benefit prior to age 65.

Retirement Options

In lieu of the benefit paid only over the lifetime of the participant, a reduced benefit payable for life of participant with:

Option 1 Same retirement allowance continued after death to the beneficiary.

Option 2 One-half of the retirement allowance continued after death to the beneficiary.

Option 3 Same retirement allowance continued after death to the beneficiary. If the beneficiary predeceases the participant, the retirement allowance is adjusted back to the unreduced allowance.

Option 4 One-half of retirement allowance continued after death to the beneficiary. If the beneficiary predeceases the participant, the retirement allowance is adjusted back to the unreduced allowance..

Option 5 Increased retirement allowance is provided up to age 62, such that benefit provided prior to age 62 is approximately equal to the sum of the reduced retirement allowance paid after age 62 and Social Security.

Option 6 Options 1 and 5 combined.

Option 7 Options 2 and 5 combined.

Survivor Benefits

If an active participant dies after completing 18 months of service, leaving a surviving spouse or other dependent beneficiaries, survivor benefits are payable. The widow or dependent beneficiary may elect to receive either a refund of accumulated contributions, or:

a. A survivor who is the widow at least age 62 and married to a participant for at least one year receives $60 per month.

b. A widow with dependent, unmarried children under age 22 receives $60 per month plus $60 per dependent child, not to exceed $180 per month. The benefit ceases when youngest child is age 22 and resumes again under (a) at age 62.

c. If no benefits are payable under (a) or (b), minor children may receive a benefit of $60 per child or $180 divided among them if more than three children.

d. If no benefits are payable under (a), (b) or (c), a dependent parent or parents may receive or share $60 per month upon attaining age 62.

If an active participant dies after completing 5 years of service, the widow or dependent beneficiary may elect to receive either a refund of accumulated contributions or:

a. If the survivor is the widow, a survivor benefit calculated as if the participant had been age 60 at death and elected Option 1, plus $60 per dependent child not to exceed $180 per month.

b. If there is no widow, a survivor benefit calculated as if the participant had been age 60 at death and elected Option 1.

Member Census Information

As of January 1	2022	2021
Active Members		
Number	4,594	4,984
Average Age	43.78	43.49
Average Service	8.11	8.15
Average Annual Base Pay	$56,474	$53,105
Vested Terminated Members		
Number	940	703
Average Account Balance	$35,941	$34,896
Non-vested Terminated Members		
Number	3,316	2,857
Average Account Balance	$4,750	$4,535
Benefit Recipients		
Number	4,363	4,386
Average Age	75.14	74.95
Average Monthly Benefit	$2,012	$2,005

Distributions of Active Members

Schedule of Active Member Valuation Data (Last Ten Years)

Plan Year	Number of Active Members	Number of Employers	Annual Payroll	Average Annual Pay	% Increase in Average Pay
2013	4,786	20	225,894,414	47,199	-3.79%
2014	4,880	21	243,277,760	49,852	5.62%
2015	5,011	20	245,699,352	49,032	-1.64%
2016	5,034	21	252,127,288	50,085	2.15%
2017	5,101	19	260,223,066	51,014	1.85%
2018	5,138	20	265,773,659	51,727	1.40%
2019	5,050	20	263,772,380	52,232	0.98%
2020	5,108	22	272,973,377	53,440	2.3%
2021	4,984	22	264,676,845	53,105	-.6%
2022	4,594	19	259,440,417	56,474	6.34%

Schedule of Retirees and Beneficiaries Added/Removed From Rolls

	Added to Payroll		Removed from Payroll		Payroll Year-End			
Plan Year	No.	Annual Allowances	No.	Annual Allowances	No.	Annual Allowances	% Increase in Annual Allowances	Average Annual Allowance
2009	N/A		N/A		N/A		N/A	N/A
2010	N/A		N/A		4,370		N/A	N/A
2011	373		156		4,587	$98,927,501	N/A	$21,567
2012	135	$2,606,505	182	$2,793,752	4,540	$98,768,933	-0.16%	$21,755
2013	164	$3,544,756	188	$2,699,920	4,516	$99,629,314	0.87%	$22,061
2014	313	$7,711,256	140	$2,288,004	4,689	$105,061,832	5.45%	$22,406
2015	163	$3,774,578	228	$3,783,237	4,624	$105,066,268	0.00%	$22,722
2016	151	$3,279,162	188	$3,058,449	4,587	$105,295,884	0.22%	$22,955
2017	145	$3,114,108	171	$2,978,925	4,561	$105,434,220	0.13%	$23,116
2018	158	$4,044,180	193	$3,526,969	4,526	$105,976,561	0.51%	$23,415
2019	162	$3,400,180	188	$3,450,225	4,500	$105,995,116	0.02%	$23,554
2020	161	$3,739,591	184	$2,728,795	4,477	$106,259,608	0.25%	$23,735
2021	143	$3,675,006	234	$4,350,523	4,386	$105,502,094	-0.71%	$24,054
2022	168	$3,679,768	191	$3,788,412	4,363	$105,333,657	-0.16%	$24,142

Summary of Methods and Assumptions

The following assumptions and methods were selected by the Board and used in this analysis. The plan's actuaries perform an experience study every 5 years and discuss anticipated future trends with the Public School Retirement System of the City of St. Louis, Missouri to ensure appropriate and reasonable assumptions and methods for the purpose of the measurement. The last experience study was completed in December 2021.

Interest

7.00% per annum, which includes a 2.50% allowance for inflation; 7.00% is net of investment expenses.

Participant Account Interest Crediting Rate

5.0% per annum.

Expenses

The rate of investment return assumed is net of investment expenses.

Mortality – Healthy Lives

PubG-2010 (Below Median) Mortality Table, amount weighted, projected fully generationally using projection scale MP-2021. The mortality assumption for retired participants receiving benefits is increased by 2% for males and 10% for females.

Beneficiary Mortality

PubG-2010 (Below Median) Mortality Table, amount weighted, projected fully generationally using projection scale MP-2021.

Disability Mortality

PubT/G-2010 Mortality Disability Table, amount weighted, projected fully generationally using projection scale MP-2021.

Withdrawal

Withdrawals are assumed to occur at rates based on actual experience of the retirement system. During the first five years of membership, withdrawals are assumed to occur at the following rates:

Year of Membership	Non-charter School Members	Charter School Members
1st	22.5%	35.0%
2nd	22.5%	30.0%
3rd	20.0%	25.0%
4th	20.0%	20.0%
5th	15.0%	20.0%

The rates used after the first five years of membership are shown in Table 1.

Salary Scale

Salaries are assumed to increase at the rate of 5.0% per year for the first 5 years of employment and 3.50% thereafter.

Disability

Disabilities are assumed to occur at rates based on the actual experience of the retirement system. The rates used are shown in Table 3.

Retirement

Retirements occur at rates based on the actual experience of the retirement system. The age-related rates used are shown in Table 2. The rates are different for those eligible to retire under the Rule of 80 and those not eligible to retire under the Rule of 80.

Deferred Vested

The liability for deferred vested members with no benefit information provided in the member data by the System is assumed to be 125% of the member's total accumulated contributions.

Family Structure

The probability of a participant being married, and the probable number of children are based on a table constructed by the Social Security Administration, modified to reflect the experience of the retirement system. The rates used are shown in Table 4. For married participants, husbands are assumed to be 3 years older than their wives.

Gender

Members with no gender provided in the member data by the System are assumed to be female.

Usage of Cash-out Option

Participants terminating in vested status are given the option of taking a refund of their accumulated participant contributions instead of a deferred retirement benefit. Active members who terminate in the future with a vested benefit are assumed to take a deferred vested annuity, unless a refund of contributions and interest is greater than the actuarial present value of their vested deferred benefit.

Future Benefit Increases or Additional Benefits

When funding is adequate, the Board may authorize cost of living adjustments (COLAs), as noted in the summary of plan provisions. This valuation assumes that no future COLAs will be awarded.

Actuarial Valuation Method – Entry Age Normal

Entry Age Normal cost method. Under this method, the actuarial value of projected benefits for each individual participant is allocated as a level percentage of compensation over the working lifetime of the participant between the date of employment and assumed date of exit.

Amortization of Unfunded Liability

Amortization is based on a 15-year closed, level dollar amount. All future changes in the accrued liability due to amendments, experience gains and losses, and assumption changes are amortized over a 15-year closed, layered method. The initial amortization base was created for the unfunded actuarial accrued liability as of January 1, 2022.

Employer Contribution – Interest Adjustment

The total contributions include an interest adjustment of one-half year's interest at the valuation interest rate to better reflect timing of contributions.

Valuation of Assets

The actuarial value of assets is based upon a smoothed market value method. Under this method, asset returns in excess of or less than the expected investment return on market value of assets will be reflected in the actuarial value of assets over a five-year period. The plan's actuarial value of assets will be set equal to the plan's market value of assets less the expense and contingency reserve as of January 1, 2022. The calculation of the Actuarial Value of Assets is based on the following formula:

MV – 80% x G/(L)1 – 60% x G/(L)2 – 40% x G/(L)3 – 20% x G/(L)4 – Expense and Contingency Reserve

MV = the market value of assets as of the valuation date

$G/(L)_i$ = the asset gain or (loss) for the i-th year preceding the valuation date

Changes in Methods & Assumptions From the Prior Valuation

- Actuarial value of assets set equal to market value of assets less expense and contingency reserve as of January 1, 2022.
- Five-year smoothing of assets based on difference between the actual investment income and expected for 2022 and later years.
- Limit the actuarial value of assets to not less than 80% and not greater than 120% of the market value of assets (less expense and contingency reserve).
- Plan's actuarial cost method changed from Unfunded Frozen Actuarial Accrued Liability to Entry Age Normal Actuarial Accrued Liability.
- Implemented a 15-year, level dollar, closed amortization period with layered amortization for future changes.
- One-half year's interest adjustment at the valuation's interest rate to better reflect the timing of contributions.
- Lowered the investment return assumption from 7.50% to 7.00%, net of investment expenses.
- Updated mortality from RP-2014 with mortality improvement scale MP-2015 to PubG-2010 (below median), amounted weighted with mortality improvement scale MP-2021.
- Updated retirement, withdrawal, and disability rates.
- Decreased the deferred vested members assumption from 150% to 125% of the member's total accumulated contributions.

Summary of Methods and Assumptions

Table 1: Withdrawal Rates – Annual Rates Per 1,000 Members

Age	Rate	Age	Rate
20	170.0	43	82.0
21	170.0	44	79.0
22	170.0	45	76.0
23	170.0	46	73.0
24	170.0	47	70.0
25	167.0	48	69.0
26	161.0	49	68.0
27	164.0	50	67.0
28	161.0	51	67.0
29	155.0	52	65.0
30	152.0	53	60.0
31	149.0	54	55.0
32	145.0	55	50.0
33	141.0	56	47.0
34	137.0	57	45.0
35	133.0	58	43.0
36	129.0	59	41.0
37	120.0	60	39.0
38	111.0	61	0.0
39	102.0	62	0.0
40	93.0	63	0.0
41	88.0	64	0.0
42	85.0		

Table 2: Retirement Rates – Annual Rates Per 1,000 Members

Age	Rule of 80 Rate	Not Rule of 80 Rate
50-51	200.0	N/A
52-54	150.0	N/A
55	200.0	N/A
56-59	150.0	N/A
60	180.0	75.0
61-63	180.0	100.0
64	180.0	175.0
65	350.0	250.0
66-71	250.0	150.0
72	1,000.0	1,000.0

Table 3: Disability Rates – Annual Rates Per 1,000 Members

		Rate			
Age	Males	Females	Age	Males	Females
20	0.00	0.00	43	1.30	0.90
21	0.00	0.00	44	1.40	0.95
22	0.00	0.00	45	1.50	1.00
23	0.00	0.00	46	1.60	1.10
24	0.00	0.00	47	1.70	1.20
25	0.00	0.00	48	1.80	1.30
26	0.00	0.00	49	1.90	1.40
27	0.00	0.00	50	2.00	1.50
28	0.00	0.00	51	2.30	1.70
29	0.00	0.00	52	2.50	1.90
30	0.40	0.40	53	2.80	2.10
31	0.40	0.40	54	3.00	2.50
32	0.40	0.40	55	3.30	3.00
33	0.40	0.40	56	3.50	3.50
34	0.40	0.40	57	3.80	4.00
35	0.40	0.40	58	4.00	4.00
36	0.50	0.45	59	4.50	4.00
37	0.50	0.50	60	5.00	4.00
38	0.60	0.60	61	5.50	4.00
39	0.70	0.70	62	6.00	4.00
40	0.80	0.75	63	6.00	4.00
41	1.00	0.80	64	6.00	4.00
42	1.10	0.85	65	6.00	4.00

Definition of Actuarial Terms

Accrued Benefit

The benefit earned by a participant as of the date at which the determination is made payable in the form of an annual benefit commencing at normal retirement age. The accrued benefit is payable for the member's lifetime only, however if the total monthly payments at the member's death are less than contributions accumulated with interest, the remaining member contribution balance will be paid to the member's beneficiary.

Accumulated Plan Benefits

The accrued benefits and any other benefits, whether vested or not, that have been earned by the participants covered by the plan as of the date at which the determination is made. These other benefits include any death, early retirement or disability benefits provided under the plan.

Actuarial Accrued Liability

Equal to the actuarial present value of future benefits less the present value of future annual normal costs.

Actuarial Cost Method

The method for allocating the actuarial present value of a pension plan's benefits and expenses to various time periods. An actuarial cost method is also referred to as a funding method.

Actuarial Gain/(Loss)

The difference between the plan's actual experience and that expected based upon a set of actuarial assumptions. A gain occurs when the experience of the plan is more favorable (in terms of cost) than the assumptions projected; a loss occurs when experience is less favorable. May also be referred to as experience gains/(losses).

Actuarial Present Value

See present value.

Actuarial Valuation

The determination, as of a valuation date, of the annual normal cost, actuarial accrued liability, actuarial value of assets and related actuarial present values for a pension plan.

Actuarial Value of Assets

The value of cash, investments and other property belonging to a pension plan determined by the actuary for the purpose of an actuarial valuation. Actuarial asset methods are generally designed to reduce fluctuations in asset value due to large variations in returns from year to year. Actuarial values are generally a smoothed market value that recognize gains and losses over time.

Amortization

The spreading of a present value or a cost over a period of years. A plan's unfunded actuarial accrued liability is amortized over a period of years.

Fiscal Year

The year on which the plan sponsor maintains its financial records.

Funded

Provided by plan assets. A liability is fully funded when assets exceed or equal the liability.

Normal Cost

That portion of the actuarial present value of pension plan benefits and expenses which is allocated to a valuation year by the actuarial cost method.

Normal Retirement Age

An age defined in the plan for purposes of establishing when a terminated participant is entitled to an accrued benefit.

Normal Retirement Benefit

The benefit payable when it commences at the normal retirement age.

Participant

A person covered by a pension plan in accordance with its terms including active participants, retired participants and beneficiaries, vested terminations, and vested transfers.

Plan Year

The year on which the plan maintains its financial records.

Present Value

The value of an amount or series of amounts payable at various times, determined as of a given date by the application based on a particular set of actuarial assumptions. It is a single sum which reflects the time value of money and the probabilities of payment.

Rate of Return

The actual or expected investment income as a percentage of a plan's average assets.

System

Public School Retirement System of the City of St. Louis, Missouri.

Unfunded Actuarial Accrued Liability

The excess of the actuarial accrued liability over the actuarial value of assets.

Vested Benefit

A benefit that is not forfeited if the participant terminates employment.

Statistical Section

"prudently administered in an effective and efficient manner."

Summary

The statistical section contains information about the System not found elsewhere in the Annual Report that is broken down into several different parts.

The first part, found on Page 110, is a Schedule of Changes in Fiduciary Net Position for the last 10 fiscal years that provides detail on the additions and deductions from the plan's assets and concludes with the annual change to the fiduciary net position for each year.

The second part, found on Pages 111-115, contains membership schedules and a graph that detail information about the plan's retired, active and inactive members. The information found on these pages includes census data for retirees by payment option and type of retirement, average benefit payments for new retirees for the last five fiscal years, covered members for the last ten fiscal years and a summary of membership changes in fiscal year 2022.

There are several historical charts and graphs on Pages 116-117 that provide information on the progress of the plan's market value of assets, employer and employee contributions, and investment income.

The last page in the statistical section provides a summary of the plan's legislative history that began on January 1, 1944, when the Missouri General Assembly created the retirement system.

Schedule of Changes in Fiduciary Net Position Last 10 Fiscal Years Ended December 31,

Fiscal Year	2013	2014	2015	2016	2017
Additions by Source		(as restated)			
Employer Contributions	$ 37,034,907	$ 41,757,458	$40,708,503	$39,519,979	$ 41,077,344
Employee Contributions	11,814,124	11,887,933	11,664,711	12,652,029	12,591,552
Investment Income (loss)	129,102,935	34,857,035	(5,488,658)	44,341,661	124,643,375
Other Income	138,506	143,754	146,007	150,427	153,544
Total Additions (depreciation)	$178,090,472	$88,646,180	$47,030,563	$96,664,096	$178,465,815
Deductions by Type					
Retirement Benefits	$98,000,369	$ 99,874,101	$99,634,429	$ 99,419,975	$ 99,499,140
Survivor Benefits	2,654,895	2,784,937	2,877,844	2,973,225	3,056,046
Disability Benefits	3,402,037	3,524,388	3,510,745	3,479,852	3,512,352
Health Care Subsidies	2,726,158	2,726,158	2,600,225	2,515,000	2,442,339
Operating Expenses	1,441,183	1,441,183	1,466,261	1,554,314	1,613,506
Contribution Refunds	3,690,639	4,203,229	4,761,086	5,220,357	4,440,594
Total Deductions by Type	$ 111,915,281	$ 114,850,590	$114,850,590	$ 115,162,723	$114,563,977
Change in Fiduciary Net Position	$ 66,175,191	$(25,786,866)	$ 63,901,838	$(18,498,627)	$ 63,901,838

Fiscal Year	2018	2019	2020	2021	2022
Additions by Source					
Employer Contributions	$ 48,797,779	$ 43,902,706	$41,822,334	$ 41,226,981	$ 41,034,190
Employee Contributions	14,248,567	17,019,685	17,607,279	20,880,189	22,794,266
Investment Income (loss)	(41,828,299)	127,469,970	76,730,861	110,983,648	(103,834,311)
Other Income	157,219	161,263	164,877	170,397	173,594
Total Additions (depreciation)	$ 21,375,266	$188,553,624	$136,325,351	$173,261,215	$173,261,215
Deductions by Type					
Retirement Benefits	$ 99,641,973	$99,624,865	$ 99,692,129	$ 99,362,102	$ 98,918,142
Survivor Benefits	3,082,696	3,043,126	3,007,912	2,987,195	2,975,242
Disability Benefits	3,616,435	3,575,042	3,412,356	3,347,554	3,196,493
Health Care Subsidies	2,381,857	2,249,449	2,129,938	2,093,653	2,005,848
Operating Expenses	1,441,183	1,862,658	1,906,813	1,523,071	1,319,797
Contribution Refunds	3,690,639	4,608,688	4,438,938	5,896,938	7,456,794
Total Deductions by Type	$ 111,915,281	$114,963,828	$114,588,086	$ 115,210,513	$ 115,872,316
Change in Fiduciary Net Position	$ 66,175,191	$73,589,796	$ 21,737,265	$58,050,702	$(154,959,677)

Retired Members and Beneficiaries by Payment Option & Type on January 1, 2022

Option	Service Benefit	Disability Benefit	Survivor Benefit	Total
0	3,275	174	265	3,714
1	128	13	-	141
2	76	5	-	81
3	187	15	-	202
4	176	6	-	182
5	21	1	-	22
6	13	5	-	18
7	3	-	-	3
Total	3,879	219	265	4,363

Amount of Annual Benefits by Payment Option & Type on January 1, 2022

Option	Service Benefit	Disability Benefit	Survivor Benefit	Total
0	$84,822,890	$2,639,049	$3,311,667	$ 90,773,606
1	2,327,632	170,481	-	2,498,113
2	1,947,908	117,333	-	2,065,241
3	4,057,623	231,707	-	4,289,330
4	4,674,694	136,665	-	4,811,359
5	515,984	9,911	-	525,895
6	249,439	48,317	-	297,756
7	72,357	-	-	72,357
Total	$98,668,527	$3,353,463	$3,311,667	$105,333,657

Option 1: Same retirement allowance continued after death to the beneficiary.

Option 2: One-half of the retirement allowance continued after death to the beneficiary.

Option 3: Same retirement allowance continued after death to the beneficiary. If the beneficiary predeceases the participant, the retirement allowance is adjusted back to the unreduced allowance.

Option 4: One-half of retirement allowance continued after death to the beneficiary. If the beneficiary predeceases the participant, the retirement allowance is adjusted back to the unreduced allowance.

Option 5: Increased retirement allowance is provided up to age 62, such that benefit provided prior to age 62 is approximately equal to the sum of the reduced retirement allowance paid after age 62 and Social Security.

Option 6: Options 1 and 5 combined.

Option 7: Options 2 and 5 combined.

Average Annual Benefit Payments By Payment Option & Type on January 1, 2022

Option	Service Benefit	Disability Benefit	Survivor Benefit	All
0	$25,900	$15,167	$12,497	$24,441
1	18,185	13,114	-	17,717
2	25,630	23,467	-	25,497
3	21,699	15,447	-	21,973
4	26,561	22,778	-	26,436
5	24,571	9,911	-	23,904
6	19,188	9,663	-	16,542
7	24,119	-	-	24,119
All	$25,437	$15,313	$12,497	$24,054

Average Monthly Benefit Payments by Payment Option & Type on January 1, 2022

Option	Service Benefit	Disability Benefit	Survivor Benefit	Total
0	$2,158	$1,264	$1,041	$2,037
1	1,515	1,093	-	1,476
2	2,136	1,956	-	2,125
3	1,808	1,262	-	1,770
4	2,048	1,898	-	2,203
5	2,048	826	-	1,992
6	1,599	805	-	1,379
7	2,010	-	-	2,010
Total	$2,120	$1,277	$1,041	$2,005

Option 1: Same retirement allowance continued after death to the beneficiary.

Option 2: One-half of the retirement allowance continued after death to the beneficiary.

Option 3: Same retirement allowance continued after death to the beneficiary. If the beneficiary predeceases the participant, the retirement allowance is adjusted back to the unreduced allowance.

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Option 6: Options 1 and 5 combined.

Option 7: Options 2 and 5 combined.

Schedule of Average Benefit Payments Last Five Fiscal Years Ended December 31st

Retirement Year(s)	**0 - 5**	**6 - 10**	**11 - 15**	**16 - 20**	**21 - 25**	**26 - 30**	**31+**
2018							
Average Monthly Benefit	$340	$724	$1,006	$1,942	$2,500	$2,741	$3,293
Average Monthly Salary	$3,524	$4,779	$4,346	$5,136	$5,430	$4,894	$5,603
Number of Retirees	11	22	16	32	25	20	20
2019							
Average Monthly Benefit	$474	$646	$1,095	$1,505	$2,418	$2,872	$4,002
Average Monthly Salary	$4,790	$4,204	$4,412	$4,167	$5,333	$5,156	$6,696
Number of Retirees	10	31	20	26	19	26	23
2020							
Average Monthly Benefit	$424	$583	$1,344	$1,838	$2,297	$3,020	$3,455
Average Monthly Salary	$5,196	$3,742	$4,906	$4,752	$4,818	$5,662	$5,945
Number of Retirees	13	20	25	34	20	20	31
2021							
Average Monthly Benefit	$717	$744	$978	$1,887	$2,329	$2,853	$3,652
Average Monthly Salary	$5,945	$4,646	$4,721	$5,032	$5,258	$5,543	$6,404
Number of Retirees	11	28	20	25	25	17	22
2022							
Average Monthly Benefit	$475	$662	$1,295	$2,217	$2,595	$3,073	$3,617
Average Monthly Salary	$5,095	$4,318	$4,905	$6,244	$5,900	$6,074	$6,192
Number of Retirees	113	34	18	16	26	17	12
2018 – 2022							
Average Monthly Benefit	**$486**	**$672**	**$1,144**	**$1,878**	**$2,428**	**$2,912**	**$3,604**
Average Monthly Salary	**$4,910**	**$4,338**	**$4,658**	**$5,066**	**$5,348**	**$5,466**	**$6,168**
Number of Retirees	**55**	**135**	**99**	**133**	**115**	**100**	**108**

Note: The calculations for the 2018 – 2022 monthly averages are weighted using the sum of an average for each year x number of retirees each year ÷ by the 2018 – 2022 number of retirees.

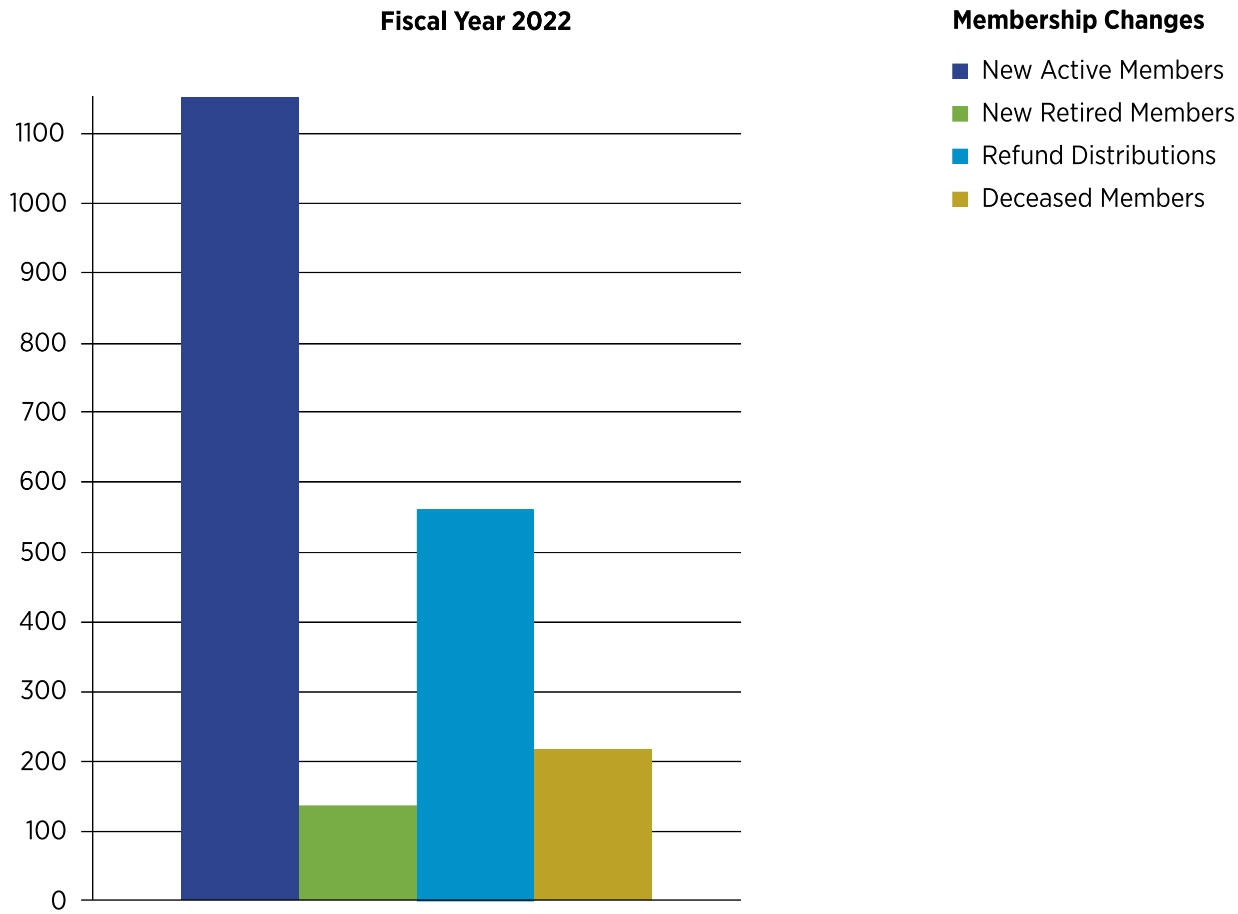
Schedule of Covered Members Last 10 Fiscal Years Ended December 31,

Member Type	2022		2021		2020		2019		2018	
	Covered Members	Percentage of Total	Covered Members	Percentage of Total	Covered Members	Percentage of Total	Covered Members	Percentage of Total	Covered Members	Percentage of Total
Active	4,594	34.8%	4,984	38.5%	5,108	39.7%	5,050	40.6%	5,138	41.3%
Inactive	4,256	32.2%	3,560	27.5%	3,274	25.5%	2,886	23.2%	2,791	22.4%
Retired (includes Beneficiaries)	4,363	33.0%	4,386	34.0%	4,477	34.8%	4,500	36.2%	4,526	36.3%
Total	13,213	100%	12,930	100%	12,859	100%	12,436	100%	12,455	100%

Member Type	2017		2016		2015		2014		2013	
	Covered Members	Percentage of Total	Covered Members	Percentage of Total	Covered Members	Percentage of Total	Covered Members	Percentage of Total	Covered Members	Percentage of Total
Active	5,101	41.8%	5,034	42.3%	5,011	43.0%	4,880	42.9%	4,788	43.7%
Inactive	2,554	20.9%	2,271	19.1%	2,012	17.3%	1,798	15.8%	1,643	15.0%
Retired (includes Beneficiaries)	4,561	37.3%	4,587	38.6%	4,624	39.7%	4,689	41.3%	4,516	41.3%
Total	12,216	100%	11,892	100%	11,647	100%	11,367	100%	10,945	100%

The Year in Review

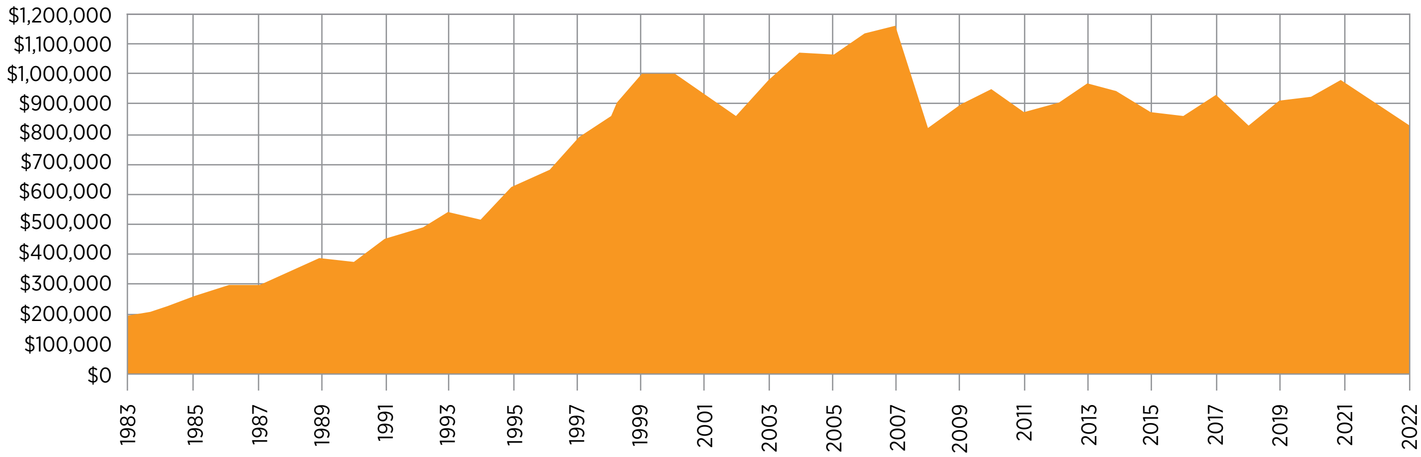
During the fiscal year ended December 31, 2022, PSRSSTL added 1,193 new active members and 136 new retired members to payroll. The retirement system processed 567 refund distributions for members who left the System and bid farewell to 218 members due to death.



These charts and graphs show changes in market value of assets, contributions, and investment earnings for fiscal years ended December 31, 1984 thru December 31, 2022.

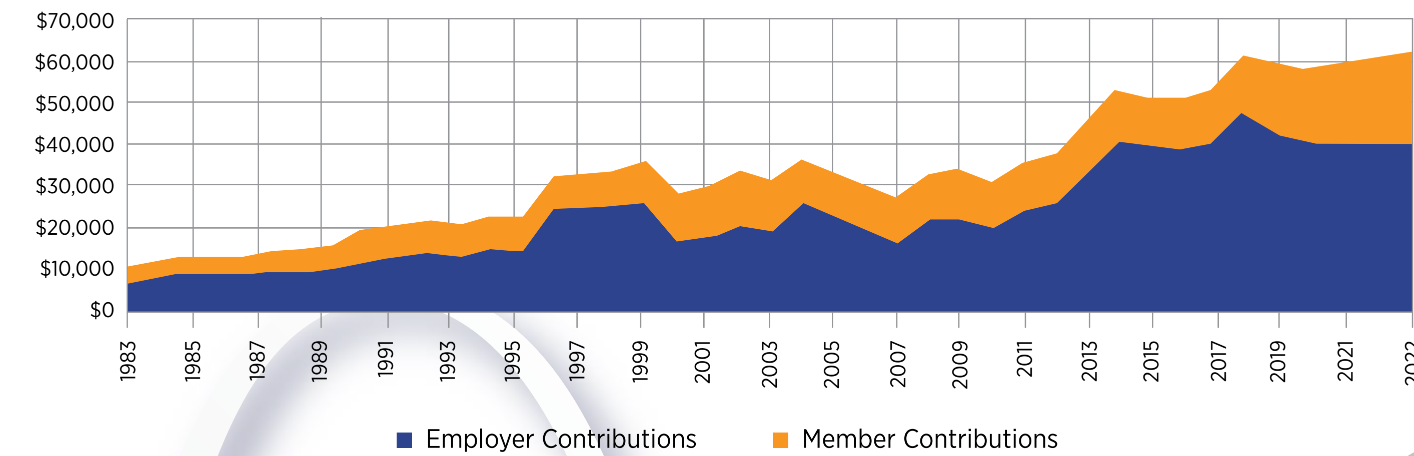
Market Value of Assets

(add 000's)

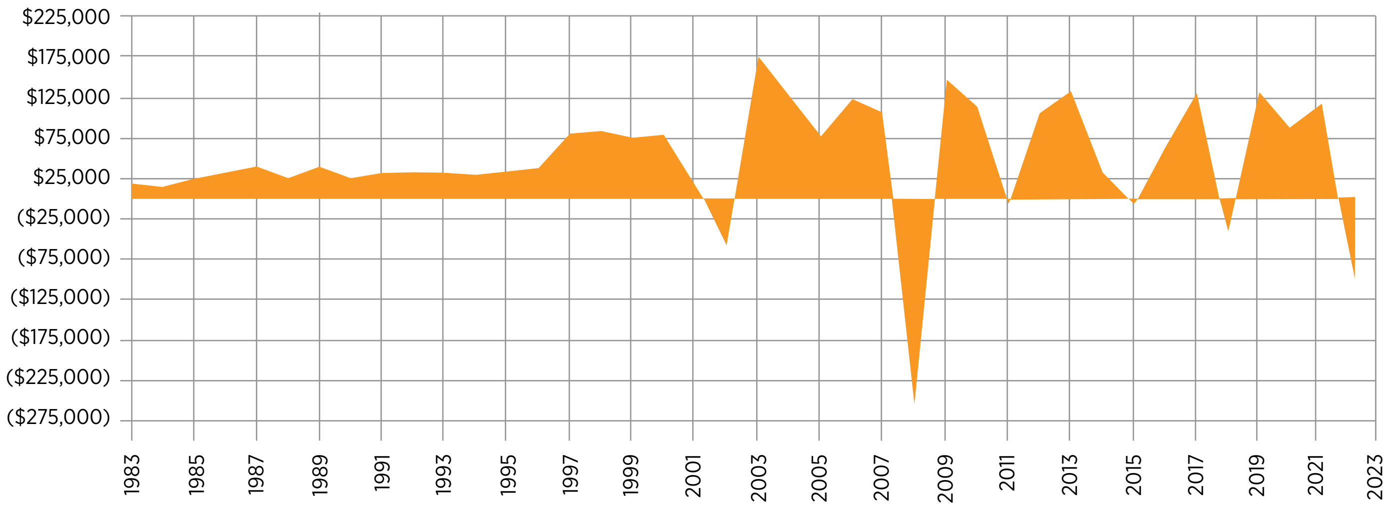


Employer & Employee Contributions

(add 000's)



Investment Income (Loss)



Participating Employers

	Covered Employees	% of Total	Covered Employees	% of Total
	2022		**2021**	
St. Louis Public Schools	2,903	63%	3,503	70%
All Others	1,691	37%	1,481	30%
Total – 19 Employers	4,594	100%	4,984	100%
	2020		**2019**	
St. Louis Public Schools	3,614	71%	3,679	73%
All Others	1,494	29%	1,371	27%
Total – 18 Employers	5,108	100%	5,050	100%
	2018		**2017**	
St. Louis Public Schools	3,733	73%	3,808	75%
All Others	1,405	27%	1,293	25%
Total – 20 Employers	5,138	100%	5,101	100%
	2016		**2015**	
St. Louis Public Schools	3,800	75%	3,826	76%
All Others	1,234	25%	1,185	24%
Total – 20 Employers	5,034	100%	5,011	100%
	2014		**2013**	
St. Louis Public Schools	3,806	78%	3,829	80%
All Others	1,074	22%	957	20%
Total – 20 Employers	4,880	100%	4,786	100%

Public School Retirement System of the City of St. Louis

1944	Creation of the retirement system by the Missouri General Assembly
1961	Plan provisions revised, active members able to choose the "old plan" or "new plan"
1969	Credited Service allowed for time lost from 1944 - 1947
1972	Credited Service options added, survivor, disability and minimum benefits added, another chance for "old plan" members to upgrade to the "new plan"
1975	First increase in benefits granted to certain retired teacher
1978	Service limits removed, survivor benefits revised, employee contributions set at 3%, Trustees granted rule-making authority, 1st back-to-work provision for some retirees
1979	Plan provisions revised to allow sick leave balances to be added to credited service and age requirements for retirement, early retirement and survivor benefits revised
1981	Plan provisions upgraded, insurance benefits improved, actuarial cost method changed, broadening of investment authority for the Board of Trustees
1984	Survivor and disability benefits upgraded, 2nd back-to-work provision for some retirees
1985	First supplemental early retirement benefit added for certain retirees
1987	Another chance for "old plan" members to join "new plan," increase in minimum pension benefit, administrative changes made
1988	Survivor and supplemental benefits enhanced
1989	Certain plan provision improvements
1990	Supplemental benefits extended for some retirees
1993	Supplemental benefits enhanced for some retirees
1996	Service purchases allowed for some lay-off periods, investment trustee replaced with school administrator trustee, COLA provisions added
1997	COLA provision added for certain retirees
1998	Employee contribution rate set at 4.5%, pension factor set at 2%, catch-up COLA for some retirees, employer contribution rate set at 8.3% for three years
1999	Employee contribution rate set at 5%

2001 COLA provisions added for some retirees, DROP added until 2005, employer contribution rate set at 8%, employer contribution rate to be actuarial determined beginning in 2002 and future years

2002 Credited service rules revised, pre-tax transfers allowed between certain retirement plans, Charter School provisions added and clarified, new social security leveling pension benefit options, actuarial provisions revised for more Board of Trustees flexibility, amortization limit set at 30 years

2007 Some administrative changes, granted the Board of Trustees authority to increase pension within strict guidelines, Board of Trustees educational requirements expanded, actuarial cost reporting revised for all Missouri retirement plans

2009 State reporting requirements revised for all Missouri retirement plans

2014 General provisions revised for all Missouri retirement plans

2017 Plan provisions changed, effective January 1, 2018, new active members required to contribute 9%, current active members to contribute 9% after a series of annual increases of 0.5% reaches ceiling, beginning with 16% employers to contribute 9% after a series of annual decreases of 0.5% reaches floor, pension factor for new active members reduced to 1.75%, pension factor for current members to remain 2.0%, and effective August 28, 2017, “Rule of 85” changed to “Rule of 80”

Public School Retirement System
of the City of St. Louis

A Pension Trust Fund for Public School Employees

3641 Olive Street
Suite 300
St. Louis, Missouri 63108-3601

(314) 534-7444
www.psrsstl.org