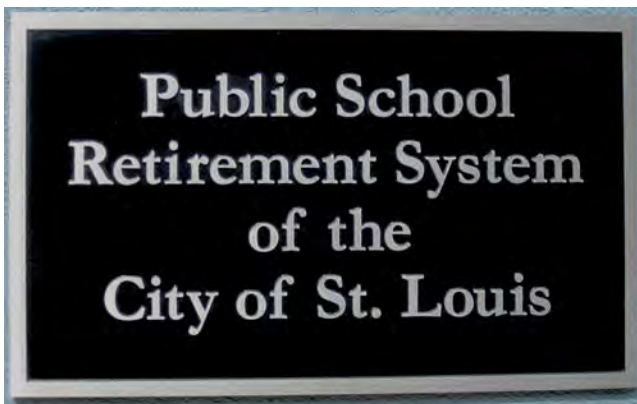


Public School Retirement System of the City of ST. Louis, Missouri

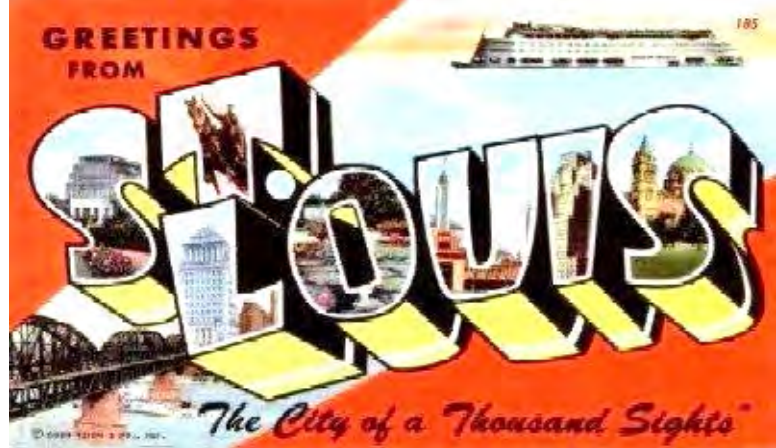
*A Pension Trust Fund for
Public School Employees*



Comprehensive Annual Financial Report

*For the Fiscal Year Ended
December 31, 2016*

(Includes comparative financials for 2015)





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.psrstl.org

Comprehensive Annual Financial Report

For the Fiscal Year Ended

December 31, 2016

(Includes comparative financials for 2015)

Prepared by:

Andrew Clark
Executive Director

In Memory of:

Mr. Charles L. "BeBe" Shelton, Jr.

August 28, 1942 - March 20, 2017

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 or 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 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.

Public School Retirement System of the City of St. Louis
Comprehensive Annual Financial Report

Fiscal Year 2016

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

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**Public School Retirement System of the City of St. Louis
Comprehensive Annual Financial Report**

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Government Finance Officers Association

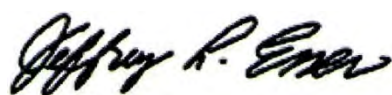
**Certificate of
Achievement
for Excellence
in Financial
Reporting**

Presented to

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

For its Comprehensive Annual
Financial Report
for the Fiscal Year Ended

December 31, 2015



Executive Director/CEO

**Public School Retirement System of the City of St. Louis
Comprehensive Annual Financial Report**

Fiscal Year 2016

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.

<u>Elected by Active Members</u>	<u>Term Ends</u>	<u>Trustee Representation</u>
Bobbie Richardson	12-31-2017	Active Non-teacher
Eural Thomas	12-31-2018	Active Non-teacher
Yvette Levy	12-31-2019	Active Administrator
Paula Bentley	12-31-2019	Active Teacher
Sheila Goodwin	12-31-2020	Active Teacher

<u>Elected by Retired Members</u>	<u>Term Ends</u>	<u>Trustee Representation</u>
Joseph Clark	09-30-2017	Retired Non-Teacher
Vacant	09-30-2019	Retired Teacher

<u>SLPS Appointments</u>	<u>Term Ends</u>	<u>Trustee Representation</u>
John Moten	12-31-2017	SLPS Board of Education
Christina Bennett	12-31-2018	SLPS Board of Education
Richard Sullivan	12-31-2019	SLPS Board of Education
Darnetta Clinkscale	12-31-2020	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, 2017

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

I am pleased to present the *Comprehensive Annual Financial Report (CAFR)* for the Public School Retirement System of the City of St. Louis (“System”, “fund” or “plan”) for the fiscal year ended December 31, 2016. Management of the System is responsible for content and presentation of material 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 is a fair portrayal of the financial position and operations of the plan for fiscal year 2016.

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 2016.

Investment Activities

During fiscal year 2016, the Board of Trustees reduced the plan’s actuarial assumed rate of return to 7.5% from 8.0%. The overall investment return for the plan during 2016 was 6.3%, which was below the actuarial assumed rate of return. Thus, the investment managers added less value to the fund than expected for the year. In comparison to other public plans in the Investor Force Universe (IFU), the System’s investment return for 2016 ranked in the top 85% of the IFU while maintaining similar risk as the peer group.

Letter of Transmittal

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 is credited service (years of service) multiplied by average compensation (final average salary for three consecutive years) multiplied by 2% (pension multiplier).

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

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 the next 30 years. For plan year 2016, the Funded Ratio was 84.9%, which falls in the middle between the highest and lowest Funded Ratio's for the System over the last couple of decades.

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.

The historic ARC percentage rates of covered compensation and corresponding dollar amounts determined by the Actuary, and accepted by the Board of Trustees, for the past three fiscal years are summarized as follows:

<u>Fiscal Year</u>	<u>ARC (%)</u>	<u>ARC (\$)</u>
2014	16.50%	\$37,267,278
2015	15.87%	\$38,597,230
2016	15.14%	\$37,210,752

Detailed actuarial information can be found in the Actuarial Section.

Legislative Information

There were no major legislative changes in 2016 that directly affected the System. The last change to the System's plan provisions occurred in 2002.

A legislative history of the plan is 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 Consultants (Conduent), and independent Certified Public Accountants, Anders Minkler Huber & Helm LLP, are contained in the appropriate sections of this report.

The firms that provide professional services to the System appear at the end of this section.

Certificate of Achievement

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the System for its comprehensive annual financial report for the fiscal year ended December 31, 2015. This was the fifth 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 comprehensive annual financial report. This report must satisfy both generally accepted accounting principles and applicable legal requirements.

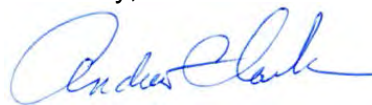
A Certificate of Achievement is valid for a period of one year only. The System believes this year's comprehensive annual financial report will again meet the Certificate of Achievement Program's requirements and it is being submitted to the GFOA to determine its eligibility for another certificate.

Acknowledgements

On March 20, 2017, the System lost one of its own when Retired Teacher Trustee, Charles L. "BeBe" Shelton, Jr., suddenly passed away less than half-way through his second term. Mr. Shelton actively participated in his roles as Trustee, Treasurer and Chairman of the Benefits Committee. I know he is missed by everyone who knew him.

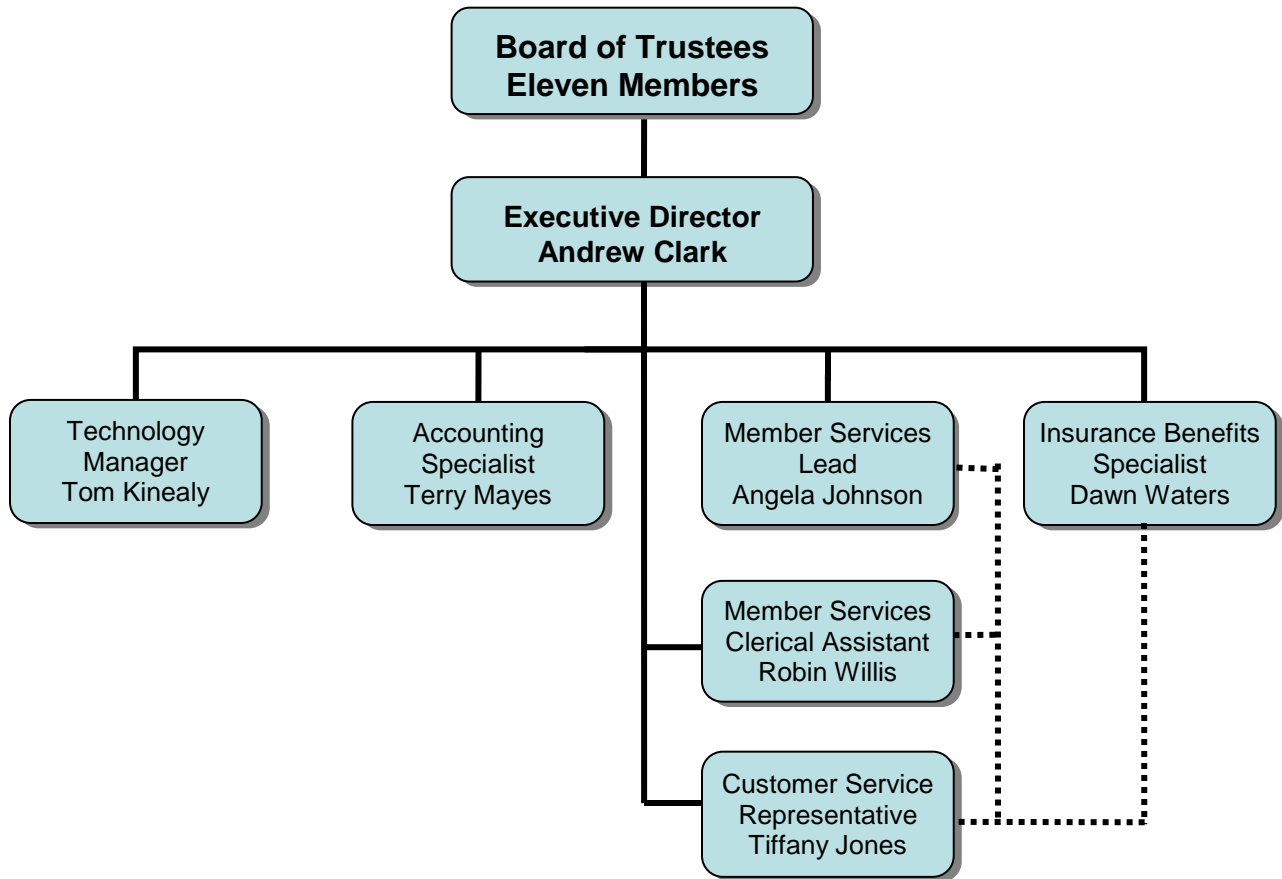
I would like to thank the Board of Trustees, staff and consultants for their assistance in preparing this report. The dedication of these groups helps to guarantee the System's continued success.

Sincerely,



Andrew Clark
Executive Director

Organizational Chart



..... Denotes work-flow supervision only

Public School Retirement System of the City of St. Louis Comprehensive Annual Financial Report

Fiscal Year 2016

Providers of Professional Services

Actuarial Services

Buck Consultants (Conduent)

Paul Baugher
St. Louis, MO

Legal Counsel

Hartnett Gladney Hetterman, L.L.C.

Jeffrey E. Hartnett
St. Louis, MO

Auditor

Anders Minkler Huber & Helm LLP

Thomas S. Helm, CPA
St. Louis, MO

Property Management

CB Richard Ellis

St. Louis, MO

Insurance Consultant

Gallagher Benefit Services, Inc.

(A division of Arthur J. Gallagher & Co.)
Patrick Haraden
Boston, MA

Technology Consulting

Jupiter Consulting Services, LLC

St. Louis, MO

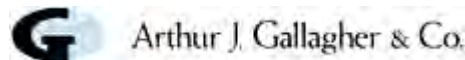
Blade Technologies, Inc.

St. Louis, MO

Investment Consultant

NEPC, LLC

Kristin Finney-Cooke
Chicago, IL



Public School Retirement System of the City of St. Louis
Comprehensive Annual Financial Report

Fiscal Year 2016

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Independent Auditors' Report

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

Report on the Financial Statements

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, 2016 and 2015, and the related statements of changes in fiduciary net position for the years then ended, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

The System's management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes 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.

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the System's preparation and fair presentation of the financial statements 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, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Independent Auditors' Report

Opinion

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, 2016 and 2015, 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.

Emphasis of Matters - GASB

In the 2015 statements, the System adopted the provisions of GASB Statement No. 68, *Accounting and Financial Reporting for Pensions*, as amended by GASB Statement No. 71, *Pension Transition for Contributions Made Subsequent to the Measurement Date*.

In the 2016 statements, the System adopted the provisions of GASB Statement No. 72, *Fair Value Measurement and Application*. Our opinion is not modified with respect to this matter. See Note 3 in the Notes to the Financial Statements for further information.

Other Matters

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, 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 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 in the financial section, and the accompanying introductory, investment, actuarial, and statistical sections are presented for purposes of additional analysis and are not a required part of the financial statements.

The other supplementary information in the financial section 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. Such 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 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

Independent Auditors' Report

standards generally accepted in the United States of America. In our opinion, the other supplementary information in the financial section is fairly stated in all material respects, in relation to the basic financial statements as a whole.

The introductory, investment, actuarial, and statistical sections of the System's Comprehensive Annual Financial Report ("CAFR") are not subject to the auditing procedures applied in the audit of the basic financial statements, and accordingly, the auditor does not express an opinion or provide any assurance on them. However, the auditor does acknowledge the relevance of these sections to the financial status of the System as reported in the CAFR.

Anders Minkler Heber & Helms LLP

April 13, 2017

Management Discussion and Analysis

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, 2016. 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 $\text{Assets} - \text{Liabilities} = \text{Fiduciary Net Position}$ 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 $\text{Additions} - \text{Deductions} = \text{Change in Fiduciary Net Position}$. 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 Management Discussion and Analysis 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 System's fiduciary net position was \$850,180,422 at December 31, 2016, which represents a decrease of \$18,498,627 from December 31, 2015. This decrease is primarily due to lower than assumed investment returns during the 2016 fiscal year, which resulted in lower asset values for certain investment categories at December 31, 2016.

The System's investment returns were 6.3% in fiscal year 2016 and (0.5%) in fiscal year 2015. The System's investment return in fiscal year 2016, when compared to fiscal year 2015, represents an upturn in investment values for certain asset categories as experienced by the financial markets during the one-year time 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 objective. The actuarially assumed rate of return remained at 8% for fiscal year 2016. However, at the end of said fiscal year, and beginning in fiscal year 2017, the Board of Trustees reduced the actuarial assumed rate of return to 7.5% from 8%.

Additions to fiduciary net position, including other income (expenses), were \$96.7 million, \$47.0 million, and \$88.6 million for fiscal years 2016, 2015 and 2014, respectively. The primary additions to fiduciary net position in 2016 were \$43.3 million of investment income and employer contributions of \$39.5 million. The main additions to fiduciary net position in 2015 were \$40.7 million of employer contributions and member contributions of \$11.7 million. The key additions to fiduciary net position during 2014 were investment income, including rental income, of \$33.9 million and employer contributions of \$41.8 million and member contributions of \$11.9 million.

Deductions from fiduciary net position were \$115.2, \$114.9, and \$114.4 million in fiscal years 2016, 2015 and 2014, respectively. The slight increase of \$312,133 in deductions from fiduciary net position between fiscal years 2016 and 2015 was mostly due to the increase in contribution refunds paid to terminated or deceased members in fiscal year 2016. The \$417,540 increase in deductions between fiscal years 2015 and 2014 was also primarily due to increased refunds paid to terminated or deceased members in fiscal year 2015.

Management Discussion and Analysis

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 provides 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 2016 that caused the change in fiduciary net position from fiscal year 2015 to fiscal year 2016.

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, 2016, total assets and deferred outflow of resources of the System were \$851,666,128 and consisted of cash, receivables, investments, and an office building. Total assets in fiscal year 2016 decreased by 2.1%, or \$18,381,651, compared to fiscal year 2015, which can be attributed to lower than expected investment market returns.

On December 31, 2016, total liabilities and deferred inflow of resources of the System were \$1,485,706 and consisted of accounts payable and accrued expenses, and net pension liability. Total liabilities in fiscal year 2016 increased by 8.5%, or \$116,976, from fiscal year 2015, primarily from the increase of the System's net pension liability as required by GASB Statement No. 68.

On December 31, 2016, the fiduciary net position restricted for pensions was \$850,180,422, a decrease of 2.1%, or \$18,498,627, from fiscal year 2015.

On December 31, 2015, total assets for the System were \$870,047,779 and consisted of cash, receivables, investments, and an office building. Total assets in fiscal year 2015 decreased by 7.2%, or \$67,732,931, compared to fiscal year 2014, which was mainly due to a decrease in the fair value of the System's investments.

On December 31, 2015, total liabilities for the System were \$1,368,730 and consisted of accounts payable, accrued expenses and net pension liability. Total liabilities in fiscal year 2015 increased by 6.8%, or \$87,096, from fiscal year 2014.

On December 31, 2015, the fiduciary net position restricted for pensions was \$868,679,049, a decrease of 7.2%, or \$67,820,027, from fiscal year 2014.

Management Discussion and Analysis

Condensed Statements of Fiduciary Net Position

	FY 2016	FY 2015	FY 2014 As restated	FY 2016 % Change	FY 2015 % Change
Assets & Deferred Outflow of Resources					
Cash	\$ 9,815,722	\$ 9,960,497	\$ 10,256,299	(1.5)%	(2.9)%
Receivables	1,816,539	1,884,189	1,804,836	(3.6)%	4.4 %
Investments	837,967,631	856,171,074	923,769,557	(2.1)%	(7.3)%
Property & building, net	1,815,142	1,882,580	1,950,018	(3.6)%	(3.5)%
Deferred outflows	251,094	149,439	-	68.0 %	100.0 %
Total Assets & deferred outflows	851,666,128	870,047,779	937,780,710	(2.1)%	(7.2)%
Liabilities & Deferred Inflow of Resources					
Accounts payable & accrued expenses	780,536	798,498	850,211	(2.2)%	(6.1)%
Net pension liability	649,399	570,232	431,423	13.9 %	32.2 %
Deferred inflows	55,771	-	-	100.0 %	- %
Total Liabilities & deferred inflows	1,485,706	1,368,730	1,281,634	8.5 %	6.8 %
Fiduciary Net Position	\$ 850,180,422	\$ 868,679,049	\$ 936,499,076	(2.1)%	(7.2)%

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 2016, employer contributions were approximately \$40 million; member contributions were approximately \$12.6 million; and net investment income was approximately \$43 million. For fiscal year 2015, employer contributions were approximately \$41 million; member contributions were approximately \$12 million; and net investment loss was approximately \$6.9 million.

Employer and member contributions combined decreased by \$201,206 in fiscal year 2016 as compared to the fiscal year 2015 decrease of \$1.3 million. These fluctuations were due to the decrease in the required employer contribution rate from 15.87% of covered compensation in fiscal year 2015 to 15.14% in fiscal year 2016 and from 16.50% of covered compensation in fiscal year 2014 to 15.87% in fiscal year 2015. The PSRSSTL Actuary determines the amount of employer contributions as part of the annual actuarial valuation report. The active member contribution rate of 5% of covered compensation has been in effect since July 1, 1999.

Net investment income was \$50 million more in fiscal year 2016 than in fiscal year 2015 because investment earnings were a positive 6.3% for fiscal year 2016 as compared to a negative 0.5% for fiscal year 2015. Net investment income was \$41 million less in fiscal year 2015 than in fiscal year 2014 because investment earnings declined to a negative 0.5% in fiscal year 2015 from a positive 4.5% for fiscal year 2014.

Net investment income (loss) of \$43,310,266, \$(6,891,983) and \$33,744,345 in fiscal years 2016, 2015, and 2014, respectively, reflect gross investment income (loss) less investment related expenses, such as investment manager, investment advisor, and custodial fees.

Management Discussion and Analysis

Expenses – Deductions from Fiduciary Net Position

The primary deductions from fiduciary net position were payments of retirement benefits, survivor benefits, disability benefits, retiree health care subsidies and refunds to members who have retired or terminated employment. PSRSSTL operating expenses in fiscal year 2016 were approximately 0.18% of assets; in fiscal years 2015 and 2014, these same expenses were approximately 0.17% and 0.14% of assets, respectively.

Condensed Statements of Changes in Fiduciary Net Position

	<u>FY 2016</u>	<u>FY 2015</u>	<u>FY 2014</u>	<u>FY 2016</u> <u>% Change</u>	<u>FY 2015</u> <u>% Change</u>
Additions					
Employer Contributions	\$ 39,519,979	\$ 40,708,503	\$ 41,757,458	(2.9)%	(2.5)%
Member Contributions	12,652,029	11,664,711	11,887,933	8.5 %	(1.9)%
Net investment income	43,310,266	(6,891,983)	33,744,345	728.4 %	(120.4)%
Rental income	<u>150,427</u>	<u>146,007</u>	<u>143,754</u>	3.0 %	1.6 %
Total Additions	<u>95,632,701</u>	<u>45,627,238</u>	<u>87,533,490</u>	109.6 %	(47.9)%
Deductions					
Retirement benefits	99,419,975	99,634,429	99,874,101	(0.2)%	(0.2)%
Survivor benefits	2,973,225	2,877,844	2,784,937	3.3 %	3.3 %
Disability benefits	3,479,852	3,510,745	3,524,388	(0.9)%	(0.4)%
Health care subsidies	2,515,000	2,600,225	2,696,001	(3.3)%	(3.6)%
Operating expenses	1,554,314	1,466,261	1,350,394	6.0 %	8.6 %
Refunds to members	<u>5,220,357</u>	<u>4,761,086</u>	<u>4,203,229</u>	9.6 %	13.3 %
Total Deductions	<u>115,162,723</u>	<u>114,850,590</u>	<u>114,433,050</u>	0.3 %	0.4 %
Other Income	<u>1,031,395</u>	<u>1,403,325</u>	<u>1,112,694</u>	(26.5)%	26.1 %
Change in Fiduciary Net Position	<u>\$ (18,498,627)</u>	<u>\$ (67,820,027)</u>	<u>\$ (25,786,866)</u>	72.7 %	(163.0)%

Financial Summary

For more than 19 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, PSRSSTL investment returns have performed consistently when compared to other public pension funds with the cumulative PSRSSTL returns ranking in the top 24% of public plans during the last 19 years for the period ended December 31, 2016.

The fiduciary net position over this same timeframe 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 2016, the fiduciary net position was \$850 million. These fluctuations in the value of the System's fiduciary net position can be attributed to volatile financial market conditions that caused substantial losses of investment returns in several past fiscal years.

Management Discussion and Analysis

Over the same period, the funded status of the PSRSSTL, using the Governmental Accounting Standards Board ("GASB") calculation method implemented in 1992, has remained stable, fluctuating within the range of 80.5% in 2002 to 88.6% in 2011. The funded ratio of a plan compares its assets to its liabilities; thereby, on an actuarial basis, measuring a plan's ability to fulfill the obligations it has to its members. The funded ratios of the PSRSSTL for fiscal years 2016, 2015, and 2014 were 84.9%, 84.8%, and 84.4%, respectively.

The Board of Trustees and the PSRSSTL Actuary assume that the PSRSSTL plan 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 continue to remain relatively stable.

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.

Financial Statements

Public School Retirement System of the City of St. Louis Statements of Fiduciary Net Position December 31, 2016 and 2015

	2016	2015
Cash	\$ 9,815,722	\$ 9,960,497
Receivables		
Accrued interest and dividends	1,788,561	1,884,189
Other receivables	<u>27,978</u>	<u>-</u>
Total Receivables	<u>1,816,539</u>	<u>1,884,189</u>
Investments, at fair value		
Cash equivalents	47,040,304	43,633,332
Bonds		
U.S. Government and agency issues	38,004,981	41,978,559
Corporate	57,455,994	52,959,179
Foreign investments (bonds and stocks)	106,066,223	110,538,386
Common and preferred stocks	210,678,307	237,621,917
Mutual funds	306,141,170	301,300,977
Real estate partnerships	52,710,452	49,354,157
Limited partnerships	19,649,576	17,940,871
Venture capital partnerships	<u>220,624</u>	<u>843,696</u>
Total Investments	837,967,631	856,171,074
Property and Building, net	<u>1,815,142</u>	<u>1,882,580</u>
Total Assets	<u>851,415,034</u>	<u>869,898,340</u>

Deferred Outflows of Resources

Deferred pension outflow - contributions	79,497	83,960
Deferred pension outflow - net difference between projected and actual earnings on pension plan investments	<u>171,597</u>	<u>65,479</u>
Total Deferred Outflows of Resources	<u>251,094</u>	<u>149,439</u>

Liabilities

Accounts Payable and Accrued Expenses	780,536	798,498
Net Pension Liability	<u>649,399</u>	<u>570,232</u>
Total Liabilities	<u>1,429,935</u>	<u>1,368,730</u>

Deferred Inflows of Resources

Deferred pension inflow – difference between expected and actual experience	15,674	-
Deferred pension inflow – change in proportional share	<u>40,097</u>	<u>-</u>
Total Deferred Inflows of Resources	<u>55,771</u>	<u>-</u>

Net Position

Net Position Restricted for Pensions	<u>\$ 850,180,422</u>	<u>\$ 868,679,049</u>
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See notes to financial statements

Financial Statements

Public School Retirement System of the City of St. Louis Statements of Changes in Fiduciary Net Position Years Ended December 31, 2016 and 2015

	2016	2015
Additions		
Employer contributions		
St. Louis Public Schools	\$ 29,007,501	\$ 31,072,850
Sick leave conversion	714,818	1,106,017
Charter Schools	9,718,163	8,445,676
Retirement System	79,497	83,960
Plan member contributions		
St. Louis Public Schools	9,429,585	8,975,828
Charter Schools	3,196,537	2,662,779
Retirement System	25,907	26,104
	<u>52,172,008</u>	<u>52,373,214</u>
Net appreciation (depreciation) in fair value of investments		
Cash equivalents	241,229	166,083
Bonds		
U.S. Government and agency issues	680,456	819,223
Corporate	7,296,052	(873,922)
Foreign investments	(582,949)	(2,336,219)
Common and preferred stock	18,161,863	4,681,643
Mutual funds	18,347,234	(13,206,807)
Limited partnerships	1,010,105	3,341,167
Real estate partnerships	3,855,694	5,813,021
Venture capital partnerships	(623,073)	(93,034)
Credit opportunity investments	-	103,801
	<u>48,386,611</u>	<u>(1,585,044)</u>
Less investment expense	<u>5,076,345</u>	<u>5,306,939</u>
Net investment income (loss)	43,310,266	(6,891,983)
Rental income	150,427	146,007
Other miscellaneous income	<u>1,031,395</u>	<u>1,403,325</u>
Net Additions	96,664,096	47,030,563
Deductions		
Benefits paid		
Retirement benefits	99,419,975	99,634,429
Survivor benefits	2,973,225	2,877,844
Disability benefits	3,479,852	3,510,745
Health care subsidies	2,515,000	2,600,225
	<u>108,388,052</u>	<u>108,623,243</u>
Operating expenses	1,554,314	1,466,261
Contribution refunds due to death or resignation	<u>5,220,357</u>	<u>4,761,086</u>
Total Deductions	<u>115,162,723</u>	<u>114,850,590</u>
Net Decrease in Net Position	(18,498,627)	(67,820,027)
Net Position Restricted for Pensions Beginning of Year	<u>868,679,049</u>	<u>936,499,076</u>
Net Position Restricted for Pensions End of Year	<u>\$ 850,180,422</u>	<u>\$ 868,679,049</u>

See notes to financial statements

**Public School Retirement System of the City of St. Louis
Notes to Financial Statements
December 31, 2016 and 2015**

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 the employees of System. The System issues an annual Comprehensive Annual Financial Report ("CAFR"), a publicly available financial report that can be obtained at www.psrstl.org.

An eleven-member Board of Trustees is responsible for general administration of the System and investing the System's assets. Members 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:

	<u>January 1, 2016</u>	<u>January 1, 2015</u>
Active members	5,034	5,011
Inactive members	<u>2,271</u>	<u>2,012</u>
Total members not retired	7,305	7,023
Retired members		
Service and survivors	4,333	4,364
Disability	<u>254</u>	<u>260</u>
	<u>4,587</u>	<u>4,624</u>
Total membership	<u><u>11,892</u></u>	<u><u>11,647</u></u>

Vesting

Full vesting on termination of employment after at least five years of service is provided if contributions are left 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 compensation.

Benefits

Upon retirement at age 65, or at any age if age plus years of credited service equals or exceeds 85 (Rule of 85), members receive monthly payments for life of yearly benefits equal to years of credited service multiplied by 2% of average final compensation, but not to exceed 60% of average final compensation. Early retirement can occur at age 60

Notes to Financial Statements

1. Description of System (continued)

with five years of service. 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 85 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 contribute 5% of compensation. Accumulated contributions are credited at the rate of interest established by the Board of Trustees. The current crediting rate is 5%.

Contributions by Employers

The System's contractually required contribution rate for the years ended December 31, 2016 and 2015 was 15.14% and 15.87%, respectively, of annual payroll, actuarially determined as an amount that, when combined with employee contributions, is expected to finance the costs of benefits earned by employees during the year, with an additional amount to finance any unfunded accrued liability. Contributions to the pension plan from the System were \$79,497 and \$83,960 for the years ended December 31, 2016 and 2015, 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. Investments are managed on a total return basis with a long-term objective and maintaining a fully funded status for the benefits provided through the pension plan. The following was the Board adopted asset allocation policy as of April 8, 2015.

Notes to Financial Statements

1. Description of System (continued)

<u>Asset Class</u>	<u>Target Allocation</u>	<u>Long-term Expected Real Rate of Return</u>
U.S. Equity	22.0%	6.2%
Non-U.S. Equity	19.0%	7.9%
Global Equity	5.0%	6.8%
Fixed Income	21.0%	2.1%
Real Estate	5.0%	4.6%
Private Markets	7.0%	7.7%
Hedge Funds	9.0%	4.2%
GAA	12.0%	5.0%
Total	<u>100.0%</u>	<u>5.4%</u>

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 government 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 an amount due the System from a 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 5 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 market value exists, management, in consultation with their investment advisors, values these investments in good faith based upon audited financials, cash flow analysis, purchases 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

2. Summary of Significant Accounting Policies (continued)

investments may differ significantly from values that would have been used had a ready market existed.

Net Appreciation (Depreciation) in Fair Value of Investments

Net appreciation (depreciation) in fair value of investments 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 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 expenses 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. No asset impairment was recognized during the years ended December 31, 2016 and 2015.

Deferred Outflows and Inflows of Resources

In addition to assets and liabilities, the statement of fiduciary net position will sometimes include a separate section for deferred outflows and inflows of resources. This separate financial statement element represents the use or acquisition of net position that applies to a future period or periods and will not be recognized as an outflow or inflow of resources until then. The System has deferred outflows and inflows in the statement of fiduciary net position that relate to pension related deferrals required by the implementation of GASB Statement No. 68.

2. Summary of Significant Accounting Policies (continued)

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 13, 2017, the date the financial statements were available to be issued.

3. Adoption of New Accounting Standards

During the year ended December 31, 2016, the System adopted GASB Statement No. 72, *Fair Value Measurement and Application*. This Statement addresses accounting and financial reporting issues related to fair value measurements. The definition of 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. This Statement provides guidance for determining a fair value measurement for financial reporting purposes. This Statement also provides guidance for applying fair value to certain investments and disclosures related to all fair value measurements.

During the year ended December 31, 2015, the System adopted GASB Statement No. 68, *Accounting and Financial Reporting for Pensions - an amendment of GASB Statement No. 27*. This Statement sets standards for measuring and recognizing liabilities, deferred outflows of resources, deferred inflows of resources, and expenses/expenditures. This Statement identifies the methods and assumptions that should be used to project benefit payments, discount projected benefit payments to their actuarial present value, and attribute that present value to periods of employee service.

During the year ended December 31, 2015, the System adopted GASB Statement No. 71, *Pension Transition for Contributions Made Subsequent to the Measurement Date - an amendment of GASB Statement No. 68*. This Statement addresses contributions made by employers to a defined benefit pension plan after the measurement date of the beginning net pension liability.

Notes to Financial Statements

4. Investments

At December 31, 2016 and 2015, investments consisted of the following:

	2016	
	<u>Fair Value</u>	<u>Cost</u>
Cash equivalents	47,040,304	\$ 47,040,304
Bonds		
U.S. Government and agency issues	38,004,981	52,366,085
Corporate	57,455,994	56,006,840
Foreign investments (bonds and stocks)	106,066,223	110,167,559
Common and preferred stocks	210,678,307	170,465,392
Mutual funds	306,141,170	245,794,152
Real estate partnerships	52,710,452	38,682,509
Limited partnerships	19,649,576	17,931,643
Venture capital partnerships	220,624	-
	<u>\$ 837,967,631</u>	<u>\$ 738,454,484</u>
	2015	
	<u>Fair Value</u>	<u>Cost</u>
Cash equivalents	\$ 43,633,332	\$ 43,633,332
Bonds		
U.S. Government and agency issues	41,978,559	42,000,899
Corporate	52,959,179	55,512,006
Foreign investments (bonds and stocks)	110,538,386	112,819,445
Common and preferred stocks	237,621,917	204,144,599
Mutual funds	301,300,977	258,530,678
Real estate partnerships	49,354,157	36,868,024
Limited partnerships	17,940,871	16,404,459
Venture capital partnerships	843,696	193,720
	<u>\$ 856,171,074</u>	<u>\$ 770,107,162</u>
	<u>2016</u>	<u>2015</u>
Annual money-weighted rate of return, net of investment expense, adjusted for the changing amounts actually invested	<u>5.52 %</u>	<u>(1.00)%</u>

5. 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.

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. There have been no changes in the methodologies used at December 31, 2016 and 2015.

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

- Level 1 Investments consist of publicly traded mutual funds, common stocks and preferred stocks. Mutual funds are valued at the net asset value ("NAV") of shares held by the System at year-end. Common and preferred stocks 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.

Notes to Financial Statements

5. Fair Value Measurements (continued)

Level 3 Investments consist of real estate partnerships, limited partnerships, and venture capital 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. Venture capital partnerships are valued by investment advisors based upon audited financial statements, other practices, and other information provided by the underlying investment advisor.

The following tables present 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, 2016 and 2015:

	2016			
	Total	Fair Value Measurements		
		Level 1	Level 2	Level 3
Cash equivalents	\$ 47,040,304	\$ -	\$ 47,040,304	\$ -
U.S. Government and agency issues	38,004,981	-	38,004,981	-
Corporate bonds	57,455,994	-	57,455,994	-
Foreign investments	106,066,223	-	106,066,223	-
Common and preferred stocks	210,678,9307	210,678,307	-	-
Mutual funds	306,141,170	306,141,170	-	-
Real estate partnerships	52,710,452	-	-	52,710,452
Limited partnerships	19,649,576	-	-	19,649,576
Venture capital partnerships	220,624	-	-	220,624
	<u>\$ 837,967,631</u>	<u>\$ 516,819,477</u>	<u>\$ 248,567,502</u>	<u>\$ 72,580,652</u>

	2015			
	Total	Fair Value Measurements		
		Level 1	Level 2	Level 3
Cash equivalents	\$ 43,633,332	\$ -	\$ 43,633,332	\$ -
U.S. Government and agency issues	41,978,559	-	41,978,559	-
Corporate bonds	52,959,179	-	52,959,179	-
Foreign investments	110,538,386	-	110,538,386	-
Common and preferred stocks	237,621,917	237,621,917	-	-
Mutual funds	301,300,977	301,300,977	-	-
Real estate partnerships	49,354,157	-	-	49,354,157
Limited partnerships	17,940,871	-	-	17,940,871
Venture capital partnerships	843,696	-	-	843,696
	<u>\$ 856,171,074</u>	<u>\$ 538,922,894</u>	<u>\$ 249,109,456</u>	<u>\$ 68,138,724</u>

Notes to Financial Statements

5. Fair Value Measurements (continued)

Changes in fair value of the System's Level 3 instruments are as follows:

	Venture Capital Partnerships	Limited Partnerships	Real Estate Partnerships	Total
December 31, 2014	936,730	17,619,984	49,040,921	67,597,635
Realized gains	-	714,527	17,544	732,071
Unrealized gains (losses)	(92,132)	2,382,755	3,527,700	5,818,323
Purchases, sales, issuances, and settlements (net)	-	(3,020,280)	(5,000,000)	(8,020,280)
Investment income (loss), net	(902)	243,885	2,267,777	2,510,760
Management fees	-	-	(499,785)	(499,785)
December 31, 2015	843,696	17,940,871	49,354,157	68,138,724
Realized gains	-	667,248	28,962	696,210
Unrealized gains (losses)	(429,352)	154,434	1,541,810	1,266,892
Purchases, sales, issuances, and settlements (net)	-	698,600	-	698,600
Investment income (loss), net	(193,720)	188,423	2,284,922	2,279,625
Management fees	-	-	(499,399)	(499,399)
December 31, 2016	<u>\$ 220,624</u>	<u>\$19,649,576</u>	<u>\$52,710,452</u>	<u>\$72,580,652</u>

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.

<u>December 31, 2016</u>	<u>Fair Value</u>	<u>Valuation Technique(s)</u>	<u>Unobservable Inputs</u>
Limited Partnerships	\$ 19,649,576	Basis in LLC	Undistributed Income
Real Estate Partnerships	\$ 52,710,452	Basis in LLC	Undistributed Income
Venture Capital Partnerships	\$ 220,624	Basis in LLC	Undistributed Income

<u>December 31, 2015</u>	<u>Fair Value</u>	<u>Valuation Technique(s)</u>	<u>Unobservable Inputs</u>
Limited Partnerships	\$ 17,940,871	Basis in LLC	Undistributed Income
Real Estate Partnerships	\$ 49,354,157	Basis in LLC	Undistributed Income
Venture Capital Partnerships	\$ 843,696	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 through December 31, 2016 and 2015 could result in a significantly higher or lower fair value measurement.

Notes to Financial Statements

6. 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, 2016 and 2015, the System had approximately \$10,220,000 and \$10,353,000, respectively, 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 Cleveland 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, 2016 and 2015 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 30, 2016 and December 30, 2015, the System received \$29,722,319 and \$32,178,867, respectively from the St. Louis Board of Education for the 2016 and 2015 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 has significant amounts of investments that are subject to market risk. Market risk is the possibility that future changes in market price may make a financial instrument less valuable. The other investments are also subject to risk. This risk is the possibility that, upon disposition, the value received may be less than the amount invested.

Concentration of Credit Risk

At December 31, 2016, 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 assets held in trust for pension benefits.

<u>Real Estate Investments</u>	<u>Fair Value</u>	<u>Percentage of Total Net Assets</u>
UBS Global Asset Management	\$ 52,710,452	6.2%

Credit Risk of Debt Securities

The System's rated debt investments as of December 31, 2016 were rated by Moody's 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.

Notes to Financial Statements

6. Risks and Uncertainties (continued)

As of December 31, 2016, 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	US Government and agency issues	Total
Aaa	\$ 4,432,351	\$ 3,470,686	\$ 20,107,145	\$ 28,010,182
Aa1	89,218	-	143,598	232,816
Aa2	870,499	2,790,702	-	3,661,201
Aa3	634,870	-	-	634,870
A1	614,890	7,717,244	-	8,332,134
A2	927,692	1,766,675	-	2,694,367
A3	1,829,245	1,446,270	-	3,275,515
Baa1	2,103,872	1,660,931	-	3,764,803
Baa2	2,301,146	2,603,750	-	4,904,896
Baa3	4,976,288	1,501,019	-	6,477,307
Ba1	3,442,504	1,579,640	-	5,022,144
Ba2	2,715,589	1,173,834	-	3,889,423
Ba3	4,758,970	770,701	-	5,529,671
B1	4,680,439	678,669	-	5,359,108
B2	2,147,898	651,332	-	2,799,230
B3	3,901,055	978,886	-	4,879,941
Caa1	2,129,637	1,025,805	-	3,155,442
Caa2	446,615	504,008	-	950,623
Caa3	276,454	64,750	-	341,204
Ca	24,570	-	-	24,570
Not rated	14,152,192	3,573,553	17,754,238	35,479,983
Total	\$ 57,455,994	\$ 33,958,455	\$ 38,004,981	\$ 129,419,430

As of December 31, 2015, 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	US Government and agency issues	Total
Aaa	\$ 3,942,605	\$ 4,037,542	\$ 20,695,415	\$ 28,675,562
Aa1	-	4,520,482	158,445	4,678,927
Aa2	673,089	398,232	-	1,071,321
Aa3	635,100	-	-	635,100
A1	396,016	7,370,679	-	7,766,695
A2	1,224,695	1,922,536	-	3,147,231
A3	2,517,596	841,695	-	3,359,291
Baa1	1,534,622	2,461,595	-	3,996,217
Baa2	2,437,214	4,207,839	-	6,645,053
Baa3	5,509,808	1,126,936	-	6,636,744
Ba1	3,166,707	1,627,483	-	4,794,190
Ba2	3,567,923	1,307,463	-	4,875,386
Ba3	4,486,582	1,013,405	-	5,499,987
B1	3,506,952	1,095,277	-	4,602,229
B2	1,997,175	207,375	-	2,204,550
B3	3,747,096	650,010	-	4,397,106
Caa1	759,375	-	-	759,375
Caa2	409,012	109,812	-	518,824
Caa3	165,150	-	-	165,150
Ca	52,400	-	-	52,400
C	215,454	120,400	-	335,854
Not rated	12,014,608	4,341,136	21,124,699	37,480,443
Total	\$ 52,959,179	\$ 37,359,897	\$ 41,978,559	\$ 132,297,635

Notes to Financial Statements

6. Risks and Uncertainties (continued)

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, 2016 is as follows:

Currency	Cash			Total
	Equivalents	Fixed Income	Equities	
Australian Dollar	\$ -	\$ -	\$ 884,987	\$ 884,987
British Pound Sterling	-	-	12,002,393	12,002,393
Canadian Dollar	-	-	2,067,056	2,067,056
Columbian Peso	-	451,799	-	451,799
Danish Krone	-	-	850,024	850,024
Euros	-	4,830,343	15,456,926	20,287,269
Hong Kong Dollar	-	-	2,528,608	2,528,608
Indian Rupee	-	180,777	-	180,777
Israeli New Sheqel	-	-	161,686	161,686
Japanese Yen	-	7,427,833	9,233,728	16,661,561
Korean Won	-	-	2,194,771	2,194,771
Malaysian Ringgit	76,599	658,239	-	734,838
Mexican Peso	48,995	3,464,443	-	3,513,438
New Zealand Dollar	-	2,609,588	-	2,609,588
Polish Zloty	-	2,374,278	-	2,374,278
South African Rand	20	-	133,349	133,369
Swedish Krona	-	-	215,252	215,252
Swiss Franc	-	-	7,435,601	7,435,601
Thai Baht	-	-	227,179	227,179
	<u>\$ 125,614</u>	<u>\$ 21,997,300</u>	<u>\$ 53,391,560</u>	<u>75,514,474</u>
Foreign investment denominated in US Dollars				<u>30,551,749</u>
				<u>\$ 106,066,223</u>

The System's exposure to foreign currency risk in U.S. dollars as of December 31, 2015 is as follows:

Currency	Cash			Total
	Equivalents	Fixed Income	Equities	
Australian Dollar	\$ -	\$ -	\$ 537,006	\$ 537,006
British Pound Sterling	15,535	3,088,439	10,876,718	13,980,692
Canadian Dollar	-	-	1,534,582	1,534,582
Chilean Peso	-	187,656	-	187,656
Columbian Peso	-	425,097	-	425,097
Danish Krone	-	-	1,113,222	1,113,222
Euros	-	3,926,330	16,606,518	20,532,848
Hong Kong Dollar	-	-	3,460,814	3,460,814
Indian Rupee	-	182,626	-	182,626
Israeli New Sheqel	-	-	342,327	342,327
Japanese Yen	28,011	7,331,577	9,553,272	16,912,860
Korean Won	-	-	2,497,322	2,497,322
Malaysian Ringgit	39,448	1,456,365	-	1,495,813
Mexican Peso	82,958	3,398,532	-	3,481,490
New Zealand Dollar	6,038	2,888,097	-	2,894,135
Norweigan Krone	-	-	48,450	48,450
Polish Zloty	-	1,665,292	-	1,665,292
Singapore Dollar	-	1,049,989	-	1,049,989
South African Rand	17	-	106,913	106,930
Swedish Krona	-	-	415,579	415,579
Swiss Franc	-	-	7,169,768	7,169,768
Thai Baht	-	-	94,228	94,228
	<u>\$ 172,007</u>	<u>\$ 25,600,000</u>	<u>\$ 54,356,719</u>	<u>80,128,726</u>
Foreign investment denominated in US Dollars				<u>30,409,660</u>
				<u>\$ 110,538,386</u>

Notes to Financial Statements

6. Risks and Uncertainties (continued)

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, 2016 is as follows:

Type	2016 Fair Value	Less Than 1 year	1 to 5 years	6 to 10 years	More than 10 years
Corporate bonds	\$ 57,455,994	\$ 285,273	\$ 22,777,527	\$ 17,904,512	\$ 16,488,682
Foreign Government & corporate obligations	33,958,455	2,096,513	12,684,429	9,990,864	9,186,649
U.S. Government & agency issues	38,004,981	-	10,891,911	5,412,443	21,700,627
Total	<u>\$129,419,430</u>	<u>\$ 2,381,786</u>	<u>\$ 46,353,867</u>	<u>\$ 33,307,819</u>	<u>\$ 47,375,958</u>

The segmented time distribution of the various investment types of the System's debt securities at December 31, 2015 is as follows:

Type	2015 Fair Value	Less Than 1 year	1 to 5 years	6 to 10 years	More than 10 years
Corporate bonds	\$ 52,959,179	\$ 752,451	\$ 17,171,874	\$ 17,826,379	\$ 17,208,475
Foreign Government & corporate obligations	37,359,897	2,750,224	13,717,627	12,078,599	8,813,447
U.S. Government & agency issues	41,978,559	-	10,316,611	6,718,180	24,943,768
Total	<u>\$132,297,635</u>	<u>\$ 3,502,675</u>	<u>\$ 41,206,112</u>	<u>\$ 36,623,158</u>	<u>\$ 50,965,690</u>

Notes to Financial Statements

7. Property and Building

Property and building as of December 31, 2016 and 2015 consists of:

	<u>2016</u>	<u>2015</u>
Land	\$ 229,451	\$ 229,451
Building	2,065,061	2,065,061
Tenant improvements	<u>158,120</u>	<u>158,120</u>
	2,452,632	2,452,632
Less accumulated depreciation	<u>637,490</u>	<u>570,052</u>
Total Property and Building	<u>\$ 1,815,142</u>	<u>\$ 1,882,580</u>

Depreciation expense totaled \$67,438 for each of the years ended December 31, 2016 and 2015.

8. Occupancy

The System occupies offices in a building it owns. Occupancy expenses for the years ended December 31, 2016 and 2015 were \$30,875 and \$23,495, respectively.

On May 7, 2009, the System entered into an agreement to lease a portion of its building to an unrelated party. The initial lease term was five years with five one-year renewal options with annual rent ranging from \$144,047 to \$158,821 through May 2019. Rental income received for the years ended December 31, 2016 and 2015 totaled \$150,427 and \$146,007, respectively.

9. 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.

10. Retirement Plan of the System

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

At December 31, 2016 and 2015, the System reported a liability of \$649,399 and \$570,232, respectively, as its proportionate share of the net pension liability. The net pension liability was measured as of December 31, 2015 and 2014, respectively, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of those dates.

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 year ended December 31, 2015 and 2014. At December 31, 2015 and 2014, the System's portion was 0.20% and 0.22%, respectively.

There were no changes in benefit terms during the System's plan year ended December 31, 2015 and 2014 that affected the measurement of total pension liability.

Notes to Financial Statements

10. Retirement Plan of the System (continued)

For the year ended December 31, 2016, the System recognized pension expense of \$112,780. At December 31, 2016, the System reported deferred outflows and inflows of resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Net difference between projected and actual earnings on pension plan investments	\$ 171,597	\$ -
System contributions subsequent to the measurement date of December 31, 2015	79,497	-
Difference between expected and actual experience	-	15,674
Changes in proportionate share	-	40,097
Total	<u>\$ 251,094</u>	<u>\$ 55,771</u>

For the year ended December 31, 2015, the System recognized pension expense of \$73,330. At December 31, 2015, the System reported deferred outflows of resources related to pensions from the following sources:

	Deferred Outflows of Resources
Net difference between projected and actual earnings on pension plan investments	\$ 65,479
System contributions subsequent to the measurement date of December 31, 2014	<u>83,960</u>
Total	<u>\$ 149,439</u>

The System's total pension liability in the December 31, 2015 and 2014 actuarial valuations were determined using the actuarial assumptions disclosed in Note 11.

Deferred outflows of resources of \$79,497 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, 2017. 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:

Amortization Schedule	
Year	Amount
2017	\$ 34,080
2018	34,080
2019	34,080
2020	21,606
2021	<u>(8,020)</u>
Total	<u>\$ 115,826</u>

Discount Rate

The discount rate used to measure the total pension liability was 8.0 percent at December 31, 2016 and 2015. The projection of cash flows used to determine the discount rate assumed that employee contributions will be made at the current contribution rate and that contributions from employers will be made at required rates, actuarially determined. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current active and inactive employees. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Notes to Financial Statements

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 8.0 percent, 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 (7.0 percent) or 1-percentage-point higher (9.0 percent) than the current rate:

System's proportionate share of the net pension liability for the year ended December 31,	1% Decrease (7.0%)	Current Discount Rate (8.0%)	1% Increase (9.0%)
2016	\$ 862,460	\$ 649,399	\$ 457,020
2015	\$ 826,428	\$ 570,232	\$ 373,894

11. Funding Status

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

	2016	2015
Actuarial value of assets	\$ 915,391,079	\$ 926,905,797
Actuarial accrual liability (AAL)	\$ 1,077,693,143	\$ 1,093,593,248
Unfunded AAL (UAAL)	\$ 162,302,064	\$ 166,687,451
Funded ratio	84.9%	84.8%
Annual covered payroll	\$ 252,127,288	\$ 245,699,583
UAAL as a percentage of payroll	64.4%	67.8%

The funded ratio increased 0.1% from the previous year. The schedule of funding progress, presented in the actuarial section, presents similar information but uses a multi-year format to show trend information. These trends indicate whether the actuarial value of plan assets are increasing or decreasing over time relative to the actuarial accrued liability for benefits. The trend information was obtained from the annual valuation report of the independent actuary retained by the System.

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

	January 1, 2016	January 1, 2015
Actuarial cost method	Frozen entry age	Frozen entry age
Rate of investment return	8.00%, net of expenses	8.00%, 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	Various by age and year of membership based on actual
Mortality and death benefits	Mortality tables mandated by the Pension Protection Act as specified in IRS Regulation 1.430(h)(3)-1 applied on a static basis, projected 7 years from the valuation date for annuitants and 15 years for non-annuitants	Mortality tables mandated by the Pension Protection Act as specified in IRS Regulation 1.430(h)(3)-1 applied on a static basis, projected 7 years from the valuation date for annuitants and 15 years for non-annuitants
Disability rates	RP-2000 Disability Mortality Table	RP-2000 Disability Mortality Table
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
Rates of salary increase	Based on actual experience of the System, at the rate of 4.5% per year	Based on actual experience of the System, at the rate of 4.5% per year
Asset valuation method	The assumed yield method of valuing assets	The assumed yield method of valuing assets

Notes to Financial Statements

12. Annual Required Contribution

As determined by the actuary, the annual required contribution is as follows at January 1, 2016:

	Board of Education	Retirement System	Charter Schools	Total
Normal Cost contribution	\$ 17,762,876	\$ 43,530	\$ 5,320,726	\$ 23,127,132
Actuarial accrued liability contribution	<u>12,696,558</u>	<u>31,114</u>	<u>3,803,152</u>	<u>16,530,824</u>
Annual required contribution (ARC)	<u>\$ 30,459,434</u>	<u>\$ 74,644</u>	<u>\$ 9,123,878</u>	<u>\$ 39,657,956</u>
Covered compensation	\$ 193,647,262	\$ 474,551	\$ 58,005,475	\$ 252,127,288
ARC as % of covered compensation	15.73%	15.73%	15.73%	15.73%

As determined by the actuary, the annual required contribution is as follows at January 1, 2015:

	Board of Education	Retirement System	Charter Schools	Total
Normal Cost contribution	\$ 16,035,241	\$ 43,946	\$ 4,490,782	\$ 20,569,969
Actuarial accrued liability contribution	<u>12,972,260</u>	<u>35,551</u>	<u>3,632,972</u>	<u>16,640,783</u>
Annual required contribution (ARC)	<u>\$ 29,007,501</u>	<u>\$ 79,497</u>	<u>\$ 8,123,754</u>	<u>\$ 37,210,752</u>
Covered compensation	\$ 191,534,175	\$ 524,915	\$ 53,640,493	\$ 245,699,583
ARC as % of covered compensation	15.14%	15.14%	15.14%	15.14%

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

13. Employers' Net Pension Liability

The components of the net pension liability (the retirement system's liability determined in accordance with GASB Statement 67 less the fiduciary net position) as of December 31, 2016, 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 2012. The total pension liability as of December 31, 2016 and 2015 is \$415,681,778 and \$322,248,286, respectively, based on actuarial valuations. The 2016 valuation was performed as of June 2016, with a measurement date of January 1, 2016, rolled forward and updated to December 31, 2016, using generally accepted actuarial procedures. The 2015 valuation was performed as of June 2015, with a measurement date of January 1, 2015, rolled forward and updated to December 31, 2015, using generally accepted actuarial procedures.

Schedule of Net Pension Liability

The components of the net pension liability of all participating employers at December 31, 2016 and 2015 are as follows:

	2016	2015
Total pension liability	\$ 1,265,862,200	\$ 1,190,927,335
Fiduciary net position	<u>850,180,422</u>	<u>868,679,049</u>
Employers' net pension liability	<u>\$ 415,681,778</u>	<u>\$ 322,248,286</u>
Fiduciary net position as a percentage of total pension liability	67.16%	72.94%

Notes to Financial Statements

13. Employers' Net Pension Liability (continued)

Sensitivity of Net Pension Liability to Changes in the Discount Rate

The following presents the net pension liability at December 31, 2016, calculated using the discount rate of 7.5%, 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 (6.5%) or 1-percentage-point higher (8.5%) than the current rate:

	1% Decrease (6.5%)	Current Discount Rate (7.5%)	1% Increase (8.5%)
Net pension liability - 2016	541,091,150	415,681,778	309,269,186

The following presents the net pension liability at December 31, 2015, calculated using the discount rate of 8.0%, 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 (7.0%) or 1-percentage-point higher (9.0%) than the current rate:

	1% Decrease (7.0%)	Current Discount Rate (8.0%)	1% Increase (9.0%)
Net pension liability - 2015	431,230,360	322,248,286	228,509,903

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 fiduciary net position was projected to be sufficient to make all projected future benefit payments of current plan members. See pp. 46 - 47.

Under GASB Statement No. 68, employers participating in the plan could recognize a proportionate share of total pension expense of \$78,088,817 and \$50,953,378 for their fiscal years beginning after June 15, 2016 and 2015, respectively.

Required schedules of changes in the net pension liability for the years ended December 31, 2016 and 2015 are provided on page 38.

A schedule of projected fiduciary net position is provided on pp. 48 - 49.

The System used the assumptions found on p. 42 for the accounting results in the financial section. Management believes that these assumptions are reasonable and comply with the requirements of GASB Statement No. 67 and GASB Statement No. 68, as applicable.

Required Supplementary Information

Public School Retirement System of the City of St. Louis Schedules of Changes of Employer Net Pension Liability* For the Fiscal Years Ended December 31st

	2016	2015	2014
Total pension liability			
Service cost	\$ 19,260,511	\$ 19,136,245	\$ 18,728,870
Interest	92,358,115	93,242,628	93,305,719
Changes of benefit terms	-	-	-
Difference between expected and actual experience	6,392,416	(10,065,347)	-
Changes of assumptions	70,532,232	-	-
Benefit payments	(113,608,409)	(113,384,329)	(113,082,656)
Refunds	-	-	-
Net change in total pension liability	<u>74,934,865</u>	<u>(11,070,803)</u>	<u>(1,048,067)</u>
Total pension liability - beginning	<u>1,190,927,335</u>	<u>1,201,998,138</u>	<u>1,203,046,205</u>
Total pension liability - ending	<u>\$ 1,265,862,200</u>	<u>\$ 1,190,927,335</u>	<u>\$ 1,201,998,138</u>
Plan fiduciary net position			
Employer contributions	\$ 39,519,979	\$ 40,708,503	\$ 41,757,458
Employee contributions	12,652,029	11,664,711	11,887,933
Net investment income	44,492,088	(5,342,651)	35,000,792
Benefit payments including refunds of employee contributions	(113,608,409)	(113,384,329)	(113,082,656)
Administrative expense	(1,554,314)	(1,466,261)	(1,350,393)
Other	-	(431,423)	-
Net change in plan fiduciary net position	<u>(18,498,627)</u>	<u>(68,251,450)</u>	<u>(25,786,866)</u>
Plan fiduciary net position - beginning	<u>868,679,049</u>	<u>936,930,499</u>	<u>962,717,365</u>
Plan fiduciary net position - ending	<u>\$ 850,180,422</u>	<u>\$ 868,679,049</u>	<u>\$ 936,930,499</u>
Net pension liability - ending	<u>\$ 415,681,778</u>	<u>\$ 322,248,286</u>	<u>\$ 265,067,639</u>
Total pension liability	\$ 1,265,862,200	\$ 1,190,927,335	\$ 1,201,998,138
Less: Plan fiduciary net position	<u>850,180,422</u>	<u>868,679,049</u>	<u>936,930,499</u>
Employer net pension liability	<u>\$ 415,681,778</u>	<u>\$ 322,248,286</u>	<u>\$ 265,067,639</u>
Plan fiduciary net position as a percentage of the total pension liability	67.16%	72.94%	77.95%
Covered employee payroll	\$ 252,127,288	\$ 245,699,583	\$ 243,280,015
Employer net pension liability as a percentage of covered employee payroll	165%	131%	109%

There have been no changes in benefits. Assumption changes effective at December 31, 2016 include revised investment return assumption of 7.50%, updated withdrawal and retirement assumptions, revised salary increase assumption, and updated mortality assumptions. The cumulative impact on Net Pension Liability at December 31, 2016 was an increase of approximately \$70.5 million.

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

See independent auditors' report

Required Supplementary Information

Public School Retirement System of the City of St. Louis Schedules of the System's Proportionate Share of the Net Pension Liability December 31, 2016 and 2015

	<u>2016</u>	<u>2015</u>
System's proportion of the net pension liability	0.20%	0.22%
System's proportionate share of the net pension liability	\$ 649,399	\$ 570,232
System's covered-employee payroll	\$ 454,115	472,849
System's proportionate share of the net pension liability (asset) as a percentage of its covered-employee payroll	143.00%	120.59%
Plan fiduciary net position as a percentage of the total pension liability	72.94%	77.95%

The amounts presented for each fiscal year were determined as of December 31st of the previous year.

Public School Retirement System of the City of St. Louis Schedules of Annual Money-Weighted Rate of Return on Investments For the Fiscal Years Ended December 31st

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.

<u>Year Ended December 31,</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
Annual money-weighted rate of return, net of investment expense, adjusted for the changing amounts actually invested	<u>5.52%</u>	<u>(1.00)%</u>	<u>3.93%</u>

See independent auditors' report

Required Supplementary Information

Public School Retirement System of the City of St. Louis Schedules of Employer Contributions December 31, 2016

Board of Education

Year Ended December 31	Actuarially Determined Contribution	Contributions Recognized by the Plan	Contributions Deficiency (Excess)	Covered Employee Payroll	Contributions recognized by the Plan as a Percentage of Covered Payroll
2007	\$16,204,917	\$ 16,204,917	\$ -	\$ 212,521,330	7.63%
2008	19,091,518	19,091,518	-	201,971,702	9.45%
2009	19,274,150	19,274,150	-	202,754,929	9.51%
2010	16,790,176	16,790,176	-	202,943,889	8.27%
2011	19,933,761	19,933,761	-	198,775,945	10.03%
2012	20,786,075	20,786,075	-	175,009,885	11.88%
2013	27,962,472	27,962,472	-	185,606,968	15.07%
2014	31,555,696	31,555,696	-	191,273,081	16.50%
2015	31,072,850	31,072,850	-	195,853,519	15.87%
2016	29,007,501	29,007,501	-	191,534,175	15.14%

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

Retirement System

Year Ended December 31	Actuarially Determined Contribution	Contributions Recognized by the Plan	Contributions Deficiency (Excess)	Covered Employee Payroll	Contributions recognized by the Plan as a Percentage of Covered Payroll
2007	\$ 34,330	\$ 34,330	\$ -	\$ 450,221	7.63%
2008	47,364	47,364	-	501,066	9.45%
2009	51,995	51,995	-	546,968	9.51%
2010	48,617	48,617	-	587,617	8.27%
2011	57,964	57,964	-	578,006	10.03%
2012	73,902	73,902	-	622,220	11.88%
2013	91,361	91,361	-	606,427	15.07%
2014	85,590	85,590	-	518,799	16.50%
2015	83,960	83,960	-	529,203	15.87%
2016	79,497	79,497	-	524,915	15.14%

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

See independent auditors' report

Required Supplementary Information

Public School Retirement System of the City of St. Louis Schedules of Employer Contributions (continued) December 31, 2015

Charter Schools

Year Ended December 31	Actuarially Determined Contribution	Contributions Recognized by the Plan	Contributions Deficiency (Excess)	Covered Employee Payroll	Contributions recognized by the Plan as a Percentage of Covered Payroll
2007	\$ 1,067,464	\$ 887,976	\$ 179,488 *	\$ 13,999,374	6.34%
2008	1,875,688	3,145,999	(1,270,311) *	19,843,158	15.85%
2009	2,074,020	3,377,789	(1,303,769) *	21,817,708	15.48%
2010	2,568,929	3,843,486	(1,274,557) *	31,050,800	12.38%
2011	4,272,457	4,521,680	(249,223) *	42,604,182	10.61%
2012	5,068,681	5,533,481	(464,800) *	42,676,134	12.97%
2013	7,313,765	6,765,907	547,858 *	48,546,696	13.94%
2014	5,625,992	8,527,507	(2,901,515) *	34,101,634	25.01%
2015	7,440,420	8,445,676	(1,005,256) *	46,897,293	18.01%
2016	8,123,754	9,718,163	(1,594,409)	53,640,493	18.12%

*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.

Harris-Stowe College

Year Ended December 31	Actuarially Determined Contribution	Contributions Recognized by the Plan	Contributions Deficiency (Excess)	Covered Employee Payroll	Contributions recognized by the Plan as a Percentage of Covered Payroll
2007	\$ 4,947	\$ 4,947	\$ -	\$ 64,876	7.63%
2008	6,746	-	6,746	71,363	- %
2009	6,784	6,746	38	71,363	9.45%

Harris-Stowe College ceased participating in the plan in 2009.

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

See independent auditors' report

Required Supplementary Information

Public School Retirement System of the City of St. Louis Schedules of Employer Contributions (continued) December 31, 2016

Employer Contributions

Year Ended December 31,	Annual Required Contribution	Percent Contributed
2007	\$ 17,311,658	129.7
2008	21,021,316	132.5
2009	21,406,949	133.6
2010	19,407,722	134.4
2011	24,264,182	118.4
2012	25,928,658	114.0
2013	35,367,598	104.7
2014	37,267,278	109.2
2015	38,597,230	102.4
2016	37,210,752	*

* To be determined at the end of the year

The actuarial information presented in the required supplementary information section was determined as part of the actuarial valuation prepared by Buck Consultants as of January 1, 2016. Additional information related to the actuarial valuation follows:

Public School Retirement System of the City of St. Louis Actuarial Assumptions December 31, 2016

Actuarial cost method:	Frozen entry age
Rate of investment return	8.00% for 2016 and 2015, net of expenses
Participant account interest crediting rate	5.00% for 2016 and 2015
Turnover or withdrawal rates:	Various by age and year of membership based on actual
Mortality and death rates:	Mortality tables mandated by the Pension Protection Act as specified in IRS Regulation 1.430(h)(3)-1 applied on a static basis, projected 7 years from the valuation date for annuitants and 15 years for non-annuitants updated to IRS Static Mortality Table mandated for use by private pension plans for the 2016 plan year.
Disability rates	RP-2000 Disability Mortality Table
Rates of retirement between the ages of 55 and 70	Various based on actual experience of the System
Rate of salary increases	Based on actual experience of the System, at the rate of 4.5% per year
Asset valuation method:	The assumed yield method of valuing assets

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

See independent auditors' report

Other Supplementary Information

Public School Retirement System of the City of St. Louis Schedules of Operating Expenses Years Ended December 31, 2016 and 2015

	<u>2016</u>	<u>2015</u>
Actuarial services	\$ 120,489	\$ 122,856
Accounting and auditing fees	73,722	87,599
Computer programming and consulting	124,812	110,556
Conventions, conferences, seminars		
Trustees (see below)	36,793	24,904
Depreciation expense	67,438	67,438
Dues and subscriptions	6,619	4,693
Employee benefits	1,115	2,024
Furniture and equipment	8,736	984
Health insurance consulting	39,843	39,843
Insurance - group health	73,314	63,448
Insurance - casualty and bonding	91,041	89,951
Legal fees and expenses	63,943	47,209
Medical fees	700	400
Miscellaneous expense	7,648	8,162
Occupancy expense	30,875	23,495
Office repairs and maintenance	33,048	30,669
Office supplies and expenses	14,296	11,324
Payroll taxes	35,239	33,895
Pension contribution	112,780	73,330
Postage	81,647	89,911
Printing and publishing	30,330	30,749
Salaries - administrative and clerical	460,643	461,927
Telephone	10,969	12,431
Utilities	<u>28,274</u>	<u>28,463</u>
 Total Operating Expenses	 <u>\$ 1,554,314</u>	 <u>\$ 1,466,261</u>

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:

	<u>2016</u>	<u>2015</u>
Lodging, meals, and miscellaneous	\$ 20,082	\$ 14,520
Transportation and registration	<u>16,711</u>	<u>10,384</u>
 Total Trustees Expenses	 <u>\$ 36,793</u>	 <u>\$ 24,904</u>

See independent auditors' report

Other Supplementary Information

Public School Retirement System of the City of St. Louis Summary of Investment Expenses Years Ended December 31, 2016 and 2015

	<u>2016</u>	<u>2015</u>
Investment management fees	\$ 4,859,453	\$ 5,075,404
Consultant fees	181,187	189,605
Banking services	<u>35,705</u>	<u>41,930</u>
Total investment expenses	<u>\$ 5,076,345</u>	<u>\$ 5,306,939</u>

Public School Retirement System of the City of St. Louis Schedules of Professional/Consultant Fees Years Ended December 31, 2016 and 2015

	<u>2016</u>	<u>2015</u>
Actuarial services	\$ 120,489	\$ 122,856
Accounting and auditing fees	73,722	87,599
Building property management	30,875	23,495
Health insurance consulting	39,843	39,843
Legal expenses	63,943	47,209
Technology consulting	<u>124,812</u>	<u>110,556</u>
Total fees	<u>\$ 453,684</u>	<u>\$ 431,558</u>

See independent auditors' report

Other Supplementary Information

Public School Retirement System of the City of St. Louis Schedules of Limited Partnerships Years Ended December 31, 2016 and 2015

Partnership Name	Style	Investments at Fair Value as of December 31, 2016
Landmark Equity Partners XIV, L.P.	Private Equity & Private Debt	\$ 1,999,809
Landmark Equity Partners XV, L.P.	Private Equity & Private Debt	3,029,023
Lighthouse Capital Partners VI, L.P.	Private Equity & Private Debt	412,584
Mesirow Financial Private Equity Partnership Fund III, L.P.	Private Equity & Private Debt	1,941,877
Monroe Capital Private Credit Fund II, L.P.	Private Equity & Private Debt	3,133,986
Pantheon Global Secondary Fund III B, L.P.	Private Equity & Private Debt	2,228,852
Siguler Guff Distressed Opportunities Fund II, L.P.	Private Equity & Private Debt	231,607
SW Pelham Fund III, L.P.	Private Equity & Private Debt	1,833,472
Vista Foundation Fund II, L.P.	Private Equity & Private Debt	4,838,366
		<u>\$ 19,649,576</u>

Partnership Name	Style	Investments at Fair Value as of December 31, 2015
Landmark Equity Partners XIV, L.P.	Private Equity & Private Debt	\$ 2,583,859
Landmark Equity Partners XV, L.P.	Private Equity & Private Debt	2,846,407
Lighthouse Capital Partners VI, L.P.	Private Equity & Private Debt	695,011
Mesirow Financial Private Equity Partnership Fund III, L.P.	Private Equity & Private Debt	2,891,872
Pantheon Global Secondary Fund III B, L.P.	Private Equity & Private Debt	3,013,762
Siguler Guff Distressed Opportunities Fund II, L.P.	Private Equity & Private Debt	559,704
SW Pelham Fund III, L.P.	Private Equity & Private Debt	1,610,258
Vista Foundation Fund II, L.P.	Private Equity & Private Debt	3,739,998
		<u>\$ 17,940,871</u>

See independent auditors' report

Other Supplementary Information

**Public School Retirement System of the City of St. Louis
 Schedule of Actuarial Present Values of Projected Benefit Payments
 000's omitted
 December 31, 2016**

Fiscal Year Ending 12/31	Beginning Fiduciary Net Position	Benefit Payments			Present Value		
		Benefit Payments	Funded Portion	Unfunded Portion	Funded Portion at 7.50%	Unfunded Portion at 3.71%	Using a Single Discount Rate of 7.50%
2017	\$ 850,180	\$ 108,181	\$ 108,181	-	\$ 104,339	-	\$ 104,339
2018	\$ 852,863	\$ 107,587	\$ 107,587	-	\$ 96,527	-	\$ 96,527
2019	\$ 860,351	\$ 106,925	\$ 106,925	-	\$ 89,240	-	\$ 89,240
2020	\$ 868,938	\$ 106,265	\$ 106,265	-	\$ 82,501	-	\$ 82,501
2021	\$ 878,364	\$ 106,022	\$ 106,022	-	\$ 76,570	-	\$ 76,570
2022	\$ 888,301	\$ 105,824	\$ 105,824	-	\$ 71,095	-	\$ 71,095
2023	\$ 898,759	\$ 105,516	\$ 105,516	-	\$ 65,942	-	\$ 65,942
2024	\$ 909,755	\$ 105,058	\$ 105,058	-	\$ 61,075	-	\$ 61,075
2025	\$ 921,339	\$ 104,534	\$ 104,534	-	\$ 56,531	-	\$ 56,531
2026	\$ 933,465	\$ 103,962	\$ 103,962	-	\$ 52,299	-	\$ 52,299
2027	\$ 946,110	\$ 103,334	\$ 103,334	-	\$ 48,356	-	\$ 48,356
2028	\$ 959,245	\$ 102,826	\$ 102,826	-	\$ 44,762	-	\$ 44,762
2029	\$ 972,670	\$ 102,318	\$ 102,318	-	\$ 41,433	-	\$ 41,433
2030	\$ 986,309	\$ 101,868	\$ 101,868	-	\$ 38,373	-	\$ 38,373
2031	\$ 1,000,003	\$ 101,384	\$ 101,384	-	\$ 35,526	-	\$ 35,526
2032	\$ 1,013,659	\$ 101,017	\$ 101,017	-	\$ 32,928	-	\$ 32,928
2033	\$ 1,027,033	\$ 100,810	\$ 100,810	-	\$ 30,568	-	\$ 30,568
2034	\$ 1,039,781	\$ 100,538	\$ 100,538	-	\$ 28,358	-	\$ 28,358
2035	\$ 1,051,668	\$ 100,343	\$ 100,343	-	\$ 26,329	-	\$ 26,329
2036	\$ 1,062,095	\$ 99,934	\$ 99,934	-	\$ 24,392	-	\$ 24,392
2037	\$ 1,069,745	\$ 99,501	\$ 99,501	-	\$ 22,592	-	\$ 22,592
2038	\$ 1,053,602	\$ 98,924	\$ 98,924	-	\$ 20,894	-	\$ 20,894
2039	\$ 1,034,011	\$ 98,013	\$ 98,013	-	\$ 19,257	-	\$ 19,257
2040	\$ 1,013,167	\$ 97,228	\$ 97,228	-	\$ 17,770	-	\$ 17,770
2041	\$ 991,304	\$ 96,231	\$ 96,231	-	\$ 16,361	-	\$ 16,361
2042	\$ 968,613	\$ 95,259	\$ 95,259	-	\$ 15,066	-	\$ 15,066
2043	\$ 945,022	\$ 94,197	\$ 94,197	-	\$ 13,858	-	\$ 13,858
2044	\$ 920,567	\$ 92,803	\$ 92,803	-	\$ 12,701	-	\$ 12,701
2045	\$ 895,540	\$ 91,318	\$ 91,318	-	\$ 11,626	-	\$ 11,626
2046	\$ 870,012	\$ 89,767	\$ 89,767	-	\$ 10,631	-	\$ 10,631
2047	\$ 844,026	\$ 88,014	\$ 88,014	-	\$ 9,696	-	\$ 9,696
2048	\$ 817,777	\$ 86,018	\$ 86,018	-	\$ 8,815	-	\$ 8,815
2049	\$ 791,515	\$ 84,041	\$ 84,041	-	\$ 8,012	-	\$ 8,012
2050	\$ 765,240	\$ 81,851	\$ 81,851	-	\$ 7,258	-	\$ 7,258
2051	\$ 739,187	\$ 79,409	\$ 79,409	-	\$ 6,551	-	\$ 6,551
2052	\$ 713,650	\$ 76,836	\$ 76,836	-	\$ 5,896	-	\$ 5,896
2053	\$ 688,817	\$ 74,050	\$ 74,050	-	\$ 5,286	-	\$ 5,286
2054	\$ 664,969	\$ 71,122	\$ 71,122	-	\$ 4,723	-	\$ 4,723
2055	\$ 642,337	\$ 68,169	\$ 68,169	-	\$ 4,211	-	\$ 4,211
2056	\$ 621,046	\$ 65,228	\$ 65,228	-	\$ 3,748	-	\$ 3,748
2057	\$ 601,190	\$ 62,321	\$ 62,321	-	\$ 3,331	-	\$ 3,331
2058	\$ 582,848	\$ 59,448	\$ 59,448	-	\$ 2,956	-	\$ 2,956
2059	\$ 566,101	\$ 56,609	\$ 56,609	-	\$ 2,618	-	\$ 2,618

See independent auditors' report

Other Supplementary Information

**Public School Retirement System of the City of St. Louis
 Schedule of Actuarial Present Values of Projected Benefit Payments (continued)
 000's omitted
 December 31, 2016**

Fiscal Year Ending 12/31	Beginning Fiduciary Net Position	Benefit Payments			Present Value			Using a Single Discount Rate of 7.50%
		Benefit Payments	Funded Portion	Unfunded Portion	Funded Portion at 7.50%	Unfunded Portion at 3.71%		
2060	\$ 551,035	\$ 53,806	\$ 53,806	-	\$ 2,315	-	\$ 2,315	
2061	\$ 537,743	\$ 51,043	\$ 51,043	-	\$ 2,043	-	\$ 2,043	
2062	\$ 526,317	\$ 48,318	\$ 48,318	-	\$ 1,799	-	\$ 1,799	
2063	\$ 516,858	\$ 45,631	\$ 45,631	-	\$ 1,580	-	\$ 1,580	
2064	\$ 509,477	\$ 42,985	\$ 42,985	-	\$ 1,385	-	\$ 1,385	
2065	\$ 504,287	\$ 40,383	\$ 40,383	-	\$ 1,210	-	\$ 1,210	
2066	\$ 501,406	\$ 37,829	\$ 37,829	-	\$ 1,055	-	\$ 1,055	
2067	\$ 500,958	\$ 35,328	\$ 35,328	-	\$ 916	-	\$ 916	
2068	\$ 501,878	\$ 32,883	\$ 32,883	-	\$ 793	-	\$ 793	
2069	\$ 505,402	\$ 30,501	\$ 30,501	-	\$ 685	-	\$ 685	
2070	\$ 511,662	\$ 28,187	\$ 28,187	-	\$ 588	-	\$ 588	

See independent auditors' report

Required Supplementary Information

**Public School Retirement System of the City of St. Louis
 Schedule of Projection of Fiduciary Net Position
 000's omitted
 December 31, 2016**

Year	Projected Beginning Fiduciary Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Investment Earnings	Projected Ending Fiduciary Net Position
2017	\$ 850,180	\$ 50,742	\$ 108,181	\$ 60,122	\$ 852,863
2018	\$ 852,863	\$ 54,774	\$ 107,587	\$ 60,301	\$ 860,351
2019	\$ 860,351	\$ 54,659	\$ 106,925	\$ 60,853	\$ 868,938
2020	\$ 868,938	\$ 54,195	\$ 106,265	\$ 61,496	\$ 878,364
2021	\$ 878,364	\$ 53,767	\$ 106,022	\$ 62,191	\$ 888,301
2022	\$ 888,301	\$ 53,357	\$ 105,824	\$ 62,926	\$ 898,759
2023	\$ 898,759	\$ 52,806	\$ 105,516	\$ 63,706	\$ 909,755
2024	\$ 909,755	\$ 52,110	\$ 105,058	\$ 64,532	\$ 921,339
2025	\$ 921,339	\$ 51,252	\$ 104,534	\$ 65,407	\$ 933,465
2026	\$ 933,465	\$ 50,282	\$ 103,962	\$ 66,325	\$ 946,110
2027	\$ 946,110	\$ 49,185	\$ 103,334	\$ 67,284	\$ 959,245
2028	\$ 959,245	\$ 47,975	\$ 102,826	\$ 68,276	\$ 972,670
2029	\$ 972,670	\$ 46,666	\$ 102,318	\$ 69,291	\$ 986,309
2030	\$ 986,309	\$ 45,242	\$ 101,868	\$ 70,319	\$ 1,000,003
2031	\$ 1,000,003	\$ 43,687	\$ 101,384	\$ 71,353	\$ 1,013,659
2032	\$ 1,013,659	\$ 42,011	\$ 101,017	\$ 72,381	\$ 1,027,033
2033	\$ 1,027,033	\$ 40,177	\$ 100,810	\$ 73,381	\$ 1,039,781
2034	\$ 1,039,781	\$ 38,089	\$ 100,538	\$ 74,336	\$ 1,051,668
2035	\$ 1,051,668	\$ 35,545	\$ 100,343	\$ 75,225	\$ 1,062,095
2036	\$ 1,062,095	\$ 31,572	\$ 99,934	\$ 76,012	\$ 1,069,745
2037	\$ 1,069,745	\$ 6,767	\$ 99,501	\$ 76,592	\$ 1,053,602
2038	\$ 1,053,602	\$ 3,939	\$ 98,924	\$ 75,394	\$ 1,034,011
2039	\$ 1,034,011	\$ 3,220	\$ 98,013	\$ 73,950	\$ 1,013,167
2040	\$ 1,013,167	\$ 2,957	\$ 97,228	\$ 72,407	\$ 991,304
2041	\$ 991,304	\$ 2,743	\$ 96,231	\$ 70,797	\$ 968,613
2042	\$ 968,613	\$ 2,545	\$ 95,259	\$ 69,124	\$ 945,022
2043	\$ 945,022	\$ 2,353	\$ 94,197	\$ 67,388	\$ 920,567
2044	\$ 920,567	\$ 2,178	\$ 92,803	\$ 65,599	\$ 895,540
2045	\$ 895,540	\$ 2,018	\$ 91,318	\$ 63,772	\$ 870,012
2046	\$ 870,012	\$ 1,870	\$ 89,767	\$ 61,910	\$ 844,026
2047	\$ 844,026	\$ 1,742	\$ 88,014	\$ 60,022	\$ 817,777
2048	\$ 817,777	\$ 1,632	\$ 86,018	\$ 58,124	\$ 791,515
2049	\$ 791,515	\$ 1,541	\$ 84,041	\$ 56,225	\$ 765,240
2050	\$ 765,240	\$ 1,465	\$ 81,851	\$ 54,334	\$ 739,187
2051	\$ 739,187	\$ 1,403	\$ 79,409	\$ 52,469	\$ 713,650
2052	\$ 713,650	\$ 1,354	\$ 76,836	\$ 50,648	\$ 688,817
2053	\$ 688,817	\$ 1,313	\$ 74,050	\$ 48,889	\$ 664,969
2054	\$ 664,969	\$ 1,282	\$ 71,122	\$ 47,209	\$ 642,337
2055	\$ 642,337	\$ 1,257	\$ 68,169	\$ 45,621	\$ 621,046
2056	\$ 621,046	\$ 1,238	\$ 65,228	\$ 44,134	\$ 601,190
2057	\$ 601,190	\$ 1,225	\$ 62,321	\$ 42,753	\$ 582,848
2058	\$ 582,848	\$ 1,215	\$ 59,448	\$ 41,485	\$ 566,101

See independent auditors' report

Other Supplementary Information

**Public School Retirement System of the City of St. Louis
Schedule of Projection of Fiduciary Net Position (continued)
December 31, 2016**

Year	Projected Beginning Fiduciary Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Investment Earnings	Projected Ending Fiduciary Net Position
2059	\$ 566,101	\$ 1,208	\$ 56,609	\$ 40,335	\$ 551,035
2060	\$ 551,035	\$ 1,204	\$ 53,806	\$ 39,310	\$ 537,743
2061	\$ 537,743	\$ 1,200	\$ 51,043	\$ 38,417	\$ 526,317
2062	\$ 526,317	\$ 1,198	\$ 48,318	\$ 37,662	\$ 516,858
2063	\$ 516,858	\$ 1,196	\$ 45,631	\$ 37,053	\$ 509,477
2064	\$ 509,477	\$ 1,196	\$ 42,985	\$ 36,599	\$ 504,287
2065	\$ 504,287	\$ 1,195	\$ 40,383	\$ 36,307	\$ 501,406
2066	\$ 501,406	\$ 1,195	\$ 37,829	\$ 36,187	\$ 500,958
2067	\$ 500,958	-	\$ 35,328	\$ 36,247	\$ 501,878
2068	\$ 501,878	-	\$ 32,883	\$ 36,408	\$ 505,402
2069	\$ 505,402	-	\$ 30,501	\$ 36,761	\$ 511,662
2070	\$ 511,662	-	\$ 28,187	\$ 37,318	\$ 520,793

See independent auditors' report

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

Investment Section

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KRISTIN FINNEY-COOKE, CAIA
SENIOR CONSULTANT

WILL FORDE, CAIA
CONSULTANT

May 24, 2016

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,

NEPC, LLC currently serves as the pension consultant for the Public School Retirement System of the City of St. Louis. In our role as the pension consultant, we assist the Board in several manners. We guide the overall asset allocation strategy of the Plan; draft the investment policy of the Plan (and amendment of when necessary); conduct investment manager searches (both traditional and alternative asset classes); provide ongoing performance evaluation for each individual investment manager, each asset class composite, and the overall investment portfolio as a whole; and on an ongoing basis we provide pertinent education to the Board.

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 postemployment benefits to members and their beneficiaries. To ensure a solid foundation for the future of the System, the Public School Retirement System of the City of St. Louis has implemented an investment program designed to achieve the actuarial assumed rate of return in the long term, while prudently managing the risk of the portfolio.

Although investment manager performance is key to the future “success” of the Plan, the overall asset allocation policy will be the primary determinant of such “success.” Modern portfolio theory maintains that long term investors, who assume prudent levels of risk, will be rewarded with incremental returns above lower returning and risk free assets (i.e. T-Bills). The pension fund, in its asset allocation policy, is required to satisfy the need to pay accumulated/earned retirement benefits today, while at the same time be prepared for “uncertain” future benefits. As such, the asset allocation policy looks to meet this objective. It takes into consideration the diversification of asset classes, but more importantly, the diversification of the risk contribution of each asset class to the investment program which in turn reduces the overall volatility of the portfolio while garnering the highest expected risk adjusted returns.

Over the last year, NEPC and the Board conducted a full asset allocation review to reaffirm the Plan’s current positioning and to exploit any opportunities currently within the capital markets. Within the traditional portion of the Plan the Board hired an emerging market debt manager, Lazard Asset Management, to manage a blended debt strategy. Within the alternatives space, the Board continued to add to its diversified program by approving a new private equity pacing plan, implementing its private debt allocation by adding Monroe to the manager line. As the allocation strategy evolves year after year, diversification and risk mitigation will continue to be the pillars of the asset allocation structure.

Return data for the Fund was reconciled from manager provided time-weighted returns that were calculated in accordance with the CFA Institute’s Global Investment Performance Standards (GIPS). Valuations, where available, are based on published national securities exchange prices, as provided by PSRS’s custodian, US Bank.

255 State Street | Boston, MA 02109 | TEL: 617.374.1300 | www.nepc.com

BOSTON | ATLANTA | CHARLOTTE | CHICAGO | DETROIT | LAS VEGAS | SAN FRANCISCO



This letter summarizes the structure and performance of the Public School Retirement System of the City of St. Louis Fund through the Fiscal Year ending December 31, 2016.

Asset Allocation and Investment Performance

During the year ending December 31, 2016, the Fund returned 6.3% gross of fees, which ranked it in the 85th percentile of public funds with assets between \$250 million and \$1.0 billion within the InvestorForce Public Fund Defined Benefit Universe. Over the 12-month period ending December 31, 2016, PSRS performance was lower than its assumed actuarial return target of 8.0%. Assets decreased from \$857.4 million at the end of fiscal year 2015 to approximately \$841.1 million as of year-end 2016. Over the trailing 5-year period ending December 31, 2016, the Fund earned an annualized rate of return of 7.6%, ranking in the 80th percentile of the comparative universe. Over the trailing 10-year period ending December 31, 2016, the Fund earned an annualized rate of return of 5.1%, ranking in the 51st percentile.

At the December 31, 2016 fiscal year end, the asset allocation of the Plan was 46% equities, 19.8% fixed income, 12.2% global asset allocation strategies, 8.7% hedge funds, 6.3% real estate, 2.0% private equity, 0.4% private debt strategies, and 4.6% cash.

While absolute performance has added value to PSRS, the relative performance has lagged relative to the benchmark. This is as a result of being in a market where diversification was not rewarded and equity markets have posted strong returns for close to 8 years. However, history suggests that diversified portfolios such as PSRS will provide better risk adjusted returns over the long term.

Market Commentary

A new year is a time for resolutions. It is also a time to take stock and reflect on lessons learned. Our key takeaways from 2016: consensus views are not a forecast, but rather an assessment of the facts on hand, and a lot can change in a year. Case in point: Twelve months ago, investors were fretting over a potential slowdown in the US and Chinese economies. Meanwhile, Donald Trump was vying to clinch the Republican ticket in the US presidential elections among a crowded platform of nominees. Fast-forward to a year later: risky assets forged gains with the S&P 500 Index returning 12%, US high-yield bonds earning over 17%, and emerging market equities reaping 11% in response to a continued economic expansion in the US and an improving outlook for China. The unexpected victory of President Trump in the elections sent domestic small-cap equities surging 9% in the fourth quarter as bond indices slumped amid expectations of higher interest rates and inflation in anticipation of the policies of the new administration. Now, a new market consensus is taking shape, one that appears to be bullish on domestic stocks while lukewarm on markets outside the United States.

Global Equity Markets

During the fourth quarter, domestic stocks led the pack as concerns around potential changes to US trade policy under President Trump dragged down overseas markets. Small-cap equities bested large-cap securities with the Russell 2000 Index returning 8.8% compared to 3.8% for the S&P 500. Value stocks outshined growth for the quarter and the year. Outside the US, developed market equities fell 0.7%, according to the MSCI EAFE Index. Rising interest rates in the US and a strong dollar pulled down emerging market stocks, which lost 4.2% in the fourth quarter, according to the MSCI Emerging Markets Index. Still, they ended the year in the black, posting gains of 11.2%.

In the third quarter of 2016, the S&P index returned 3.9% and the Russell 2000 gaining 9.0%. Growth outpaced value across all capitalizations. Technology was the best performing sector while utilities and consumer staples lagged behind. Volatility, as measured by the VIX, dropped 15% during the quarter. Investors shrugged off fears surrounding Brexit and monetary policies remained accommodative. Sector results were mixed with materials leading the pack with gains of 16% while health care declined 2%. In the United Kingdom, the market rebounded in local currency terms, but the pound continued to sell off. Elsewhere, emerging markets rose around 9%, according to the MSCI Emerging Market Index. China - among the better performing countries - gained 13.9% in the third quarter. Political unrest in the Philippines resulted in declines of 5.3%.



The S&P 500 managed to end the second quarter modestly positive and returned 2.5%. The Russell 2000 had a strong second quarter as 9 out of the 10 economic sectors registered positive returns. From a sector basis, the more defensive sectors led the market higher with Energy, Telecommunications, Utilities and Health Care. Sectors lagging during the second quarter were Consumer Discretionary, Information Technology, and Industrials. Across the developed world, equity markets declined following the UK's decision to leave the EU before rallying in the final days of the quarter. Ireland and Italy led developed markets lower, selling off 9.9% and 9.7%, respectively. In local terms, Japanese equity markets declined nearly 7%. While, for US dollar investors, Japan equities returned a positive 1% as the Yen approached a 2-year high against the dollar. Similar to the US, energy was the top sector in developed markets, returning roughly 11.5% while consumer discretionary stocks were one of the weakest returning -8.2% for the quarter. Within emerging markets, investors looked past the Brexit fears and recognized ongoing positive developments. Latin America was a particular focus, where favorable election results in Peru and further progress in the impeachment process in Brazil led to those markets returning 16.9% and 13.3%, respectively. In contrast, China equity markets waived, trailing the broader benchmark with a return of -1.7%. From a sector perspective, consumer staples stocks performed the best, returning 4.2% for the quarter.

During the first three months of 2016, concerns around global growth and the precipitous decline in oil prices roiled stocks initially in the first quarter, but reassuring economic data triggered a dramatic reversal at the end of the first quarter. The S&P 500 ended the first quarter with gains of 1.3%, while the Russell 2000 Index was down 1.5%. Returns were generally driven by the beaten down areas of the market, including smaller, lower quality and commodity-related equities. Defensive bond-proxy sectors, for instance, telecom and utilities, were the best performers; value outperformed growth. Across the pond, developed markets also sold off and then rebounded following further rate cuts by the European Central Bank, and comments from the Federal Reserve on a slowing pace for raising rates that fueled a weaker dollar. Non-US markets lost 3%, according to the MSCI EAFE Index. European banks were hit the hardest during the quarter leading to losses of 9.6% for the financial sector. Energy, a laggard in 2015, was the best performing sector with returns of 4.7%. Japan experienced the worst results, selling off 6.5% in the first quarter. Similarly, emerging markets started the year with a sharp selloff, subsequently reversing course. As a result, emerging markets returned 13% in March - their best month since 2011. For the quarter, emerging markets gained 5.7%, besting other equity markets. Strongest performers included Brazil with gains of 27.4%.

Global Fixed Income Markets

Domestic fixed-income securities turned in a solid performance in 2016, with the Barclays Aggregate Bond Index up 2.7% and the Barclays High Yield Bond Index returning 17.1%. Risk-takers were rewarded while investors tilting toward safety lagged. This trend was especially prominent in the fourth quarter when risk premiums tightened across sectors, with commodities experiencing the most pronounced spread compression. Overseas, emerging market debt was also a strong performer in 2016 with local-currency debt leading for most of the year but faltering in the aftermath of the US elections. It racked up gains of 9.4%, finishing behind emerging market hard-currency issues which returned 10.2%. One-third of global developed sovereign debt yields were negative and two-thirds yielded below 1% in the third quarter. On the other hand, domestic high yield fixed-income securities and hard currency emerging market debt were up 5.6% and 4%, respectively, for the three months ended September 30. Through September, US high-yield debt and hard currency emerging market issues returned around 15%, second only to gains of 17.1% by local currency emerging market debt. The US Barclays Aggregate Index returned 0.5%, driven primarily by the corporate credit component of the index.

The second quarter illustrated the current dichotomy within fixed income: safe-haven assets rallied significantly, while risky assets also outperformed as investors continued to search for yield. Globally, the 10-year German bund broke into negative territory, falling 28 bps to -0.13%. In Japan, 10-year bond yields continued to move lower, settling at -0.22%. At home, the U.S. 10-year Treasury yield compressed 29 bps, nearing its all-time low at 1.49%. The Barclays Aggregate returned 2.2%, while US High-Yield



returned 5.5% for the quarter. Overall, credit was broadly supported by lower quality sectors. Non-credit-risk assets also performed well, as emerging market local debt returned 2.7% in the quarter with a strong rebound in June of 5.9%. Global fixed-income markets staged a dramatic comeback in the second half of the first quarter. Global yields were pushed lower with the ECB and Bank of Japan cutting rates deeper into negative territory. Further stimulus from the ECB, a dovish Fed statement and improvements in macroeconomic data bolstered performance. Global investment-grade spreads tightened during the period led by the industrials sector, while global high-yield debt sharply rebounded; at home, high-yield issues gained 3.2%. Given the rebound in commodities, commodity related sectors led performance. Returns were positive across emerging markets with local sovereign debt markets leading the way as rates fell and currencies appreciated.

Investment Manager(s) Changes

During the 2016 fiscal year, the Plan retained two new investment managers and terminated three investment managers.

2016 Summary

Although the Plan underperformed relative to the Plan's policy index (which returned 8.4%) for the fiscal year ending December 31, 2016, the Plan remains diversified and well positioned to meet its goals and objectives over the long-term.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kristen Hoffe', written in a cursive style.

Investment Policies and Operating Guidelines

Public School Retirement System of the City of St. Louis

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	Asset Allocation Policy
Operating Guidelines by Asset Class	Liquidity Assumption for Benefit Payments
Standards of Investment Performance	Watch List / Probation Process
Reporting Requirements	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
<http://www.psrssl.org/about-us/rules-regulations-statutes.aspx>

Investment Summary

Public School Retirement System of the City of St. Louis

Schedule of Investments Year Ended December 31, 2016

Investment Category	% of MV	Market Value (MV)	Cost	MV Over (Under) Cost
Cash Equivalents	5.61%	\$47,040,304	\$47,040,304	\$0
U.S. Government and Agency Issues	4.54%	38,004,981	52,366,085	(14,361,104)
Corporate Bonds	6.86%	57,455,994	56,006,840	1,449,154
Foreign Investments (bonds & stocks)	12.66%	106,066,223	110,167,559	(4,101,336)
Common and Preferred Stocks	25.14%	210,678,307	170,465,392	40,212,915
Mutual Funds	36.53%	306,141,170	245,794,152	60,347,018
Real Estate Partnerships	6.29%	52,710,452	38,682,509	14,027,943
Alternative Investments	2.37%	19,870,200	17,931,643	1,938,557
Total	100.0%	\$837,967,631	\$738,454,484	\$99,513,147

Market Value of All Assets Years Ended December 31, 2014 – 2016

Investment Category	December 31, 2014		December 31, 2015		December 31, 2016	
	Market Value	% of Total	Market Value	% of Total	Market Value	% of Total
Cash, Receivables, Cash Equivalents	\$57,917,293	6.18%	\$55,478,018	6.38%	\$58,672,565	6.89%
Property and Building	1,950,018	0.21%	1,882,580	0.22%	1,815,142	0.21%
U.S. Government & Agency Issued Bonds	54,142,975	5.77%	41,978,559	4.82%	38,004,981	4.46%
Corporate Bonds	49,771,651	5.31%	52,959,179	6.09%	57,455,994	6.75%
Foreign Investments (bonds and stocks)	81,572,508	8.70%	110,538,386	12.70%	106,066,223	12.45%
Common and Preferred Stocks	277,686,810	29.61%	237,621,917	27.31%	210,678,307	24.74%
Mutual Funds	337,202,390	35.96%	301,300,977	34.63%	306,141,170	35.95%
Real Estate Partnerships	49,040,921	5.23%	49,354,157	5.67%	52,710,452	6.19%
Credit Opportunity Investments	9,939,430	1.06%	0	0.00%	0	0.00%
Alternative Investments	18,556,714	1.98%	18,784,567	2.16%	19,870,200	2.33%
Other Assets	0	0.00%	149,439	0.02%	251,094	0.03%
Total	\$937,780,710	100.0%	\$870,047,779	100.0%	\$851,666,128	100.0%

Investment Returns

Public School Retirement System of the City of St. Louis

For the fiscal year ended December 31, 2016, the PSRSSTL portfolio posted a gain of 6.3%, ranking 85th within the Investor Force Universe (IFU) of Public Funds. For the three-year and five-year periods ending December 31, 2016, the PSRSSTL portfolio ranked 85th and 80th, returning 3.4% and 7.6%, respectively.

Investment returns for the retirement system's portfolio, stocks and bonds for the one-year, three-year and five-year periods ending December 31, 2016 are set forth below.

<u>Investment Category</u>	Annualized Returns for Periods Ended¹		
	December 31, 2016, net of fees		
	One Year	Three Years	Five Years
PSRS Total Portfolio	6.3%	3.4%	7.6%
Allocation Index ²	8.4%	4.2%	8.1%
PSRS Domestic Equities	9.8%	7.1%	14.0%
Russell 3000 Index	12.7%	8.4%	14.7%
PSRS Domestic Bonds	8.1%	4.1%	5.4%
Barclays Aggregate	2.6%	3.0%	2.2%
Barclays High Yield	17.1%	4.7%	7.4%
PSRS International Equities	-0.6%	-2.1%	7.8%
MSCI EAFE Index	1.0%	-1.6%	6.5%
PSRS Emerging Market Equities	12.6%	-2.7%	0.4%
MSCI Emerging Markets Index	11.2%	-2.6%	1.3%
PSRS Global Bonds	-0.1%	-1.3%	-1.7%
Citi World Gov Bond Index	1.6%	-0.8%	-1.0%

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

²The 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 pension fund.

Asset Allocation and Investment Managers As of December 31, 2016 (in thousands)

ASSET CLASS	RELATIVE TO: Management Style	TOTAL PORTFOLIO						ASSET CLASS	
		MARKET VALUES		TARGET VALUES		VARIANCE		MARKET VALUE	
Money Manager		\$	%	\$	%	Value	%	Value	%
LARGE CAP GROWTH DOMESTIC EQUITIES		80,549	9.5%	46,728	5.5%	33,821	4.0%		
Holland Capital Management	Large Cap Growth							29,618	36.8%
Intech	Large Cap Growth							22,697	28.2%
TCW Asset Management	Large Cap Growth							28,234	35.1%
LARGE CAP CORE DOMESTIC EQUITIES		3,472	0.4%	16,992	2.0%	(13,520)	-1.6%		
Mellon Stock Index Fund	Large Cap Core							3,472	100.0%
LARGE CAP VALUE DOMESTIC EQUITIES		77,633	9.1%	46,728	5.5%	30,905	3.6%		
Chicago Equity Partners	Large Cap Value							44,062	56.8%
The Edgar Lomax Company	Large Cap Value							33,571	43.2%
MID CAP GROWTH DOMESTIC EQUITIES		3	0.0%	25,488	3.0%	(25,485)	-3.0%		
New Amsterdam Partners	Mid Cap Growth							3	100.0%
SMALL/MICRO CAP DOMESTIC EQUITIES		67,996	8.0%	50,976	6.0%	17,020	2.0%		
Westfield Capital Management	Small Cap Growth							21,251	31.3%
Systematic Financial Management	Small Cap Value							25,206	37.1%
Dimensional Fund Advisors (DFA)	Micro Cap							21,539	31.7%
GLOBAL TACTICAL ASSET ALLOCATION		102,755	12.1%	101,952	12.0%	803	0.1%		
GMO	Balanced Fund							34,821	33.9%
Mellon Global Alpha	Balanced Fund							32,903	32.0%
PIMCO	Balanced Fund							35,031	34.1%
GLOBAL EQUITIES		42,034	4.9%	42,480	5.0%	(446)	-0.1%		
Ativo Capital Partners	Global Equities							10,680	25.4%
Brown Capital Management	Global Equities							10,296	24.5%
Strategic Global Advisors	Global Equities							21,058	50.1%
INTERNATIONAL EQUITIES		114,958	13.5%	161,424	19.0%	(46,466)	-5.5%		
Dimensional Fund Advisors (DFA)	Emerging Markets							13,532	11.8%
OFI Global Asset Management	Emerging Markets							20,594	17.9%
Fidelity Institutional Asset Management	International Equities							40,583	35.3%
Causeway	International Equities							40,249	35.0%
CORE DOMESTIC BONDS		64,559	7.6%	67,968	8.0%	(3,409)	-0.4%		
EARNEST Partners	Core Domestic Bonds							11,847	18.4%
Mellon Bond Index Fund	Core Domestic Bonds							688	1.1%
Manulife Asset Management	Core Domestic Bonds							41,184	63.8%
Piedmont Investment Advisors (formerly NCM Capital)	Core Domestic Bonds							10,840	16.8%
HIGH YIELD DOMESTIC BONDS		41,480	4.9%	42,480	5.0%	(1,000)	-0.1%		
Loomis Sayles	High Yield Bonds							41,480	100.0%
EMERGING MARKETS DEBT		26,162	3.1%	25,488	3.0%	674	0.1%		
Lazard Asset Management	Emerging Markets							26,162	0.0%
GLOBAL BONDS		34,052	4.0%	42,480	5.0%	(8,428)	-1.0%		
Mondrian	Global Bonds							34,052	100.0%
HEDGED STRATEGIES		72,940	8.6%	76,464	9.0%	(3,524)	-0.4%		
EnTrust Capital	Fund of Funds							21,342	29.3%
Grosvenor Capital Management	Fund of Funds							25,516	35.0%
Passport Capital	Global Strategy Direct							8,990	12.3%
Whitebox Advisors	Multi-Strategy Direct							17,092	23.4%
REAL ESTATE		52,711	6.2%	42,480	5.0%	10,231	1.2%		
UBS Trumbull Property & Income Funds	Commercial Real Estate							52,711	100.0%
PRIVATE EQUITY & PRIVATE DEBT		19,870	2.3%	42,480	5.0%	(22,610)	-2.7%		
Secondary, Distressed, Mezzanine, Fund of Funds, Debt	Limited Partnerships							19,870	100.0%
PRIVATE REAL ASSETS		0	0.0%	16,992	2.0%	(16,992)	-2.0%		
CASH (Does Not Include Managers' Residual Cash)		48,426	5.7%	0	0.0%	48,426	5.7%		
U.S. Bank (checking, investment account & receivable)	Cash Accounts							48,426	
TOTAL (000's Omitted)		\$849,600	100.0%	\$849,600	100.0%			\$849,600	

The target values shown above represent the Asset Allocation Policy adopted by the Board of Trustees on April 8, 2015. In October 2015, Lazard Asset Management was hired to manage an emerging markets debt investment, funding occurred during the 2016 First Quarter. The hedge fund portfolio was restructured during 2016 due to a merger between Entrust and Permal, and the sudden closure of Standard Pacific. Entrust was retained, Permal was terminated and Standard Pacific liquidated all assets. Grosvenor Capital Management was hired to manage a hedge fund strategy as part of the restructuring. Fort Washington Investment Advisors was hired in 2016 to manage a \$15 million private equity commitment, funding will be made from cash as called. The allocation to real assets was under review as of December 31, 2016, after Wellington Management was terminated in early 2016; the Board of Trustees eliminated the asset class from the policy in early 2017. The Board of Trustees also terminated New Amsterdam Partners in 2016, and the mid-cap equity asset class was under review as of December 31, 2016.

Domestic Equity Investments

Domestic Equity Performance & Characteristics	
2016 Return	9.8%
Weighted Avg. Market Capitalization	\$76.5 Billion
P/E Ratio	25.8
Price/Book Ratio	4.7
Five-Year Annualized Return	14.0%

PSRSSTL Ten Largest Domestic Equity Holdings			
<u>Company</u>	<u>% of Holdings</u>	<u>Company</u>	<u>% of Holdings</u>
Alphabet "C"	1.5%	Cisco Systems	1.1%
Exxon Mobile	1.5%	Wal-Mart	1.0%
Visa	1.3%	Adobe Systems	1.0%
Amazon.com	1.2%	JP Morgan Chase	1.0%
First American Prime	1.1%	Merck	1.0%

Top Ten Contributors to the PSRSSTL Domestic Equity Portfolio Relative to the Russell 3000 Stock Index					
<u>Company</u>	<u>Contribution %</u>	<u>Return</u>	<u>Company</u>	<u>Contribution %</u>	<u>Return</u>
Western Refining	0.1%	44.9%	Southwest Airlines	0.1%	28.4%
SVB Financial Group	0.1%	55.3%	Amgen	0.1%	-11.8%
United Rentals	0.1%	34.5%	United Therapeutics	0.1%	21.5%
Servicfirst	0.1%	44.4%	Assured Guaranty	0.1%	36.6%
Primerica	0.1%	30.7%	Neustar	0.1%	25.6%

Bottom Ten Contributors to the PSRSSTL Domestic Equity Portfolio Relative to the Russell 3000 Stock Index					
<u>Company</u>	<u>Contribution %</u>	<u>Return</u>	<u>Company</u>	<u>Contribution %</u>	<u>Return</u>
Wells Fargo	-0.2%	25.5%	Cerner	-0.1%	-23.3%
Bank of America	-0.2%	41.7%	JP Morgan Chase	-0.1%	30.5%
Citigroup	-0.1%	26.2%	Walt Disney	-0.1%	13.1%
Berkshire Hathaway	-0.1%	12.8%	Acadia Healthcare	-0.1%	-33.2%
Microsoft	-0.1%	8.6%	NVIDIA	-0.1%	56.0%

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, 2016, excluding pooled or mutual funds.

Domestic Bond Investments

PSRSSTL Domestic Bond Portfolio Performance & Characteristics	
2016 Return	8.1%
Average Yield to Maturity	3.8%
Average Duration	5.9 Years
Average Quality Rating	A
Five-Year Annualized Return	5.4%

The PSRSSTL Investment & Operating Guidelines require the average duration (interest rate sensitivity) of the PSRSSTL domestic bond portfolio to remain seven years or less. Since the average duration of the PSRSSTL domestic bond portfolio was 5.9 years at the end of fiscal year 2016, the System's domestic bond money managers met this requirement in 2016.

PSRSSTL Domestic Bond Portfolio Quality Ratings	Percentage of PSRSSTL Domestic Bond Portfolio
AAA	7.1%
AA	32.7%
A	8.6%
BBB	16.6%
BB and Below	32.1%
Not Rated	2.9%

The PSRSSTL Board of Trustees requires the overall average quality rating of high-grade fixed income investments to be "AA" or better and the average quality rating of securities held in high-yield fixed income investments to be "B" or better. Since around 65% of the PSRSSTL domestic bond portfolio was rated "BBB" or better at the end of fiscal year 2016, the System's domestic bond money managers exceeded the plan's requirements for the year.

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, 2016, excluding pooled or mutual funds.

Investment Fees and Expenses

Public School Retirement System of the City of St. Louis Brokerage Commissions Paid Year Ended December 31, 2016

<u>Company</u>	<u>Commissions</u>	<u>Company</u>	<u>Commissions</u>	<u>Company</u>	<u>Commissions</u>
Autonomous	\$ 28.20	FBR Capital Markets	\$ 162.40	Morgan Stanley	\$ 3,050.68
Baird & Company	353.87	First Clearing	224.00	National Financial Services	116.00
Barclays Capital	3,560.14	First Southwest Company	1,197.00	Needham & Company	866.85
BB&T Securities	210.00	FIS Brokerage	119.20	North South Capital	176.85
Berenberg Gossler	403.17	Goldman Sachs	2,850.78	Oppenheimer & Co.	499.20
Bloomberg Tradebook	911.48	Guggenheim	378.80	Penserra Securities	901.26
Bluefin Research Partners	75.60	Guzman & Company	3,489.58	Pershing Securities	187.98
BMO Capital Markets	722.45	HSBC	1,290.39	Piper Jaffray	160.99
BNP Paribas Security Services	1,523.71	Instinet	15,389.55	Raymond James	379.60
Brean Capital	57.20	ITG	14,293.32	RBC Capital Markets	4,542.46
Broadcort Cap Corp	12,796.64	Ivy Securities Inc.	10,044.82	Redburn Partners	704.15
BTIG, LLC	71.40	J P Morgan	5,341.32	Rosenblatt Securities	2,097.76
Buckingham Research Group	15.00	Jeffries & Co.	3,343.50	Sandler O'Neill & Partners	114.00
Cabrera Capital Markets	10,262.27	JMP Securities	433.60	Sanford C. Bernstein & Co	4,390.56
Cantor Clearing House	854.10	Jones Trading	707.40	SG Securities	1,385.92
Cantor Fitzgerald	554.21	KCG Americas	1,894.73	Simmons & Co.	58.40
Cap Institutional Services	3,922.34	Keefe Bruyette & Woods	90.00	State Street	30,126.69
Cheevers & Co., Inc.	4,307.61	Keybanc Capital Markets	461.20	Stephens Inc.	227.20
Citigroup	3,332.30	King CL & Associates	4,141.35	Stifel Nicolaus & Co.	1,765.60
CLSA Limited	569.82	Leerink Swann & Co.	98.00	Sturdivant & Co.	1,189.40
Convergex Execution Solutions	28,816.05	Liquidnet Inc.	5,254.31	Suntrust Capital	290.80
Cornerstone	507.00	Longbow Securities LLc	178.60	Telsey Advisory Group	41.96
Cowen & Co.	494.00	Loop Capital Markets	11,378.06	Topeka Capital Markets	324.30
Craig Hallum	21.60	M. Ramsey King Securities	228.30	UBS	9,467.77
Credit Research & Trading	215.20	Macquarie Securites	1,682.07	Valdes & Moreno Inc.	787.50
Credit Suisse Securities	7,739.62	MainFirst Bank	371.50	Wedbush Morgan Securities	1,589.22
Daiwa	1,430.57	Merrill Lynch	9,576.02	Weeden & Co.	1,546.91
Deutsche Bank Securities	4,336.52	Mischler Financial Group	11,464.35	Wells Fargo Securities	879.10
Evercore	209.66	Mizuho Securities USA	160.70	William Blair & Co.	261.88
Exane SA	624.13	MKM Partners	2,850.20	Williams Capital Group	3,225.67

2016 Total Commissions \$269,377.57

Investment Fees and Expenses

Public School Retirement System of the City of St. Louis

Investment Managements Fees and Expenses Years Ended December 31, 2016 and 2015

Investment management fees	2016	2015
Ativo Capital Management	\$ 68,840	\$ 33,585
Batterymarch Financial Management	-	54,452
Brown Capital Management	66,874	33,915
Causeway Capital Management	264,366	276,918
Chicago Equity Partners	153,816	172,251
Earnest Partners	33,100	36,277
Edgar Lomax Company	164,645	173,858
Entrust Capital Diversified Fund LTD	284,938	306,577
Fidelity Institutional Asset Management GMO, LLC	251,439	271,074
	-	2,446
Holland Capital Management	180,753	206,277
Intech Investment Management	118,692	133,596
Lazard Asset Management	198,882	-
Loomis Sayles & Company, LP	208,175	253,966
Manulife Asset Management	128,235	135,618
Mellon Capital Management	283,169	318,627
Mondrian Investment Partners	167,910	163,818
New Amsterdam Partners	74,193	97,758
OFI Global Asset Management	166,285	185,963
Passport II LP	179,797	217,191
Piedmont Investment Advisors	31,322	28,445
Standard Global Equity	151,657	157,571
Strategic Global	129,771	65,431
Systematic Financial Management	239,196	252,091
TCW Asset Management Company	183,335	210,542
UBS Realty Investors LLC	499,400	499,785
US Bank Trust	146,399	148,771
Wellington Trust Company	46,947	169,346
Westfield Capital Management	207,799	239,473
Whitebox Multi-Strategy Fund, L.P.	229,518	229,782
	<hr/>	<hr/>
Total Investment Management Fees	4,859,453	5,075,404
NEPC, LLC	181,187	189,605
Banking services	35,705	41,930
	<hr/>	<hr/>
Total Investment Expenses	\$ 5,076,345	\$ 5,306,939

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

Actuarial Section

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June 2016

Mr. Andrew Clark
Executive Director
PSRS of the City of St. Louis
3641 Olive Street, Suite 300
St. Louis, MO 63108-3601

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

Actuarial Certification

The annual actuarial valuation required for the Public School Retirement System of the City of St. Louis has been prepared as of January 1, 2016 by Buck Consultants. The purposes of the report 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, 2016.

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 on page 70. Information with respect to financial disclosures under GASB 67 and 68 may be found in the Financial Section of this report.

In preparing this valuation, we have employed generally accepted actuarial methods and assumptions, in conjunction with employee data and financial information provided to us by the System, to determine a sound value for the System liability. The employee 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 and methods used are reasonable, and for funding purposes meet the parameters and standards set by Actuarial Standards of Practice, 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, 2006 to December 31, 2010 was prepared by Buck Consultants and approved by the Board for use beginning with the January 1, 2012 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, 2011 to December 31, 2015 and upon approval by the Board will be the basis of valuations performed from January 1, 2017 through January 1, 2021. A summary of all assumptions and methods is presented beginning on page 82.

Mr. Andrew Clark
PSRS of the City of St. Louis

June 2016
Page 2

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 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.

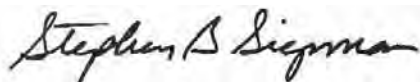
Buck Consultants prepared the Annual Required Contribution schedules, 10-year Schedules of Employer Contributions, Actuarial Assumptions, Schedule of Actuarial Present Values of Projected Benefit Payments, and Schedule of Projection of Fiduciary Net Position found in the Financial Section of this report.

Buck Consultants prepared the Annual Required Contribution schedules, Actuarial Balance Sheet, Schedule of Funding Progress, schedule of Projected Unit Credit Funding Status, Prioritized Solvency Test Results, Development of the Actuarial Value of Assets worksheet, History of the Expense and Contingency Reserve, Investment Performance worksheets, Member Census data, and all tables found in the actuarial Summary of Methods and Assumptions in this Actuarial Section.

The undersigned meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein, and are 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. We believe that this report conforms to requirements of the Missouri statutes, and where applicable, other federal and accounting laws, regulations and rules, as well as generally accepted actuarial principles and practices.

Sincerely,



Stephen B. Siepman, FSA, EA, MAAA
Principal, Retirement



Troy Jaros, FSA, EA, MAAA
Senior Consultant, Retirement

Report Highlights

This report has been prepared by Buck Consultants to:

- Present the results of a valuation of the Public School Retirement System of the City of St. Louis as of January 1, 2016; and
- Determine the required contribution rate for 2017.

After the summary and analysis of the valuation results, this report is divided into sections. One section contains the results of the valuation and includes the experience of the System during the 2015 plan year, the actuarially required costs and funded levels.

Another section contains information on retirement system assets, including the market value of assets, the calculation of actuarial value of assets, the contingency reserve and asset returns.

The final section of this report 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.

Experience Gains and losses

Under the actuarial funding method used to determine the contribution, actuarial gains (or losses) result in a decrease (or increase) in the normal cost rate. 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 2015 plan year, total actuarial gains due to plan experience were \$22.4 million. Roughly \$19.1 million of this amount is a loss attributable to the System's actuarial rate of return on assets which was 5.7% or 2.3% lower than the assumed rate of return of 8.0%. By comparison, the rate of return on the market value of assets during 2015 was -0.6%. The difference in these returns is primarily due to less-than-assumed investment performance during 2015. At January 1, 2016, the actuarial value of assets of \$915.4 million was above the market value of assets (excluding the expense and contingency reserve) by approximately \$76.2 million.

Roughly \$3.3 million of the total actuarial loss is a loss attributable to demographic experience. A review of the experience gains and losses over recent years indicates that the current actuarial assumptions continue to match well with the emerging demographic experience and they continue to be reasonable for use in advance of the next anticipated experience study.

Assumption Changes

For the 2016 valuation, the mortality assumption was changed. A detailed description of the change appears in the basis of the valuation section under the summary of methods and assumptions. In total, the assumption change increased actuarial liability by approximately \$1.6 million.

Report of the Actuary

Normal cost rate

The normal cost is determined annually and equals the product of the normal cost rate times covered payroll. For 2016, the annual normal cost due December 31, 2016 is \$23,127,132, as compared to \$20,569,969 for 2015, an increase primarily due to the aforementioned actuarial loss, along with an increase from the impact due to the change of assumptions. The annual normal cost rate increased from 8.05% to 8.82% due to the experience losses. Covered payroll increased slightly from \$245.7 million to \$252.1 million.

Accrued liability amortization

The actuarial accrued liability contribution is determined as the amount necessary to amortize the remaining Unfunded Frozen Actuarial Accrued Liability (UFAAL) over a period of 30 years from January 1, 2006, when the Board of Trustees acted to redetermine the UFAAL. This portion of the contribution only changes to reflect changes in benefits, changes in actuarial assumptions and methods, and variations in the remaining UFAAL due to deviations between actual and expected contributions. Employer contributions for 2015 were \$2.1 million more than the annual required contribution, which reduced the UFAAL more than expected. However, the changes in actuarial assumptions from the previous valuation increased the UFAAL by \$1.6 million. As a result, the net amortization payment decreased from \$16,640,783 to \$16,530,824. The amortization payment component of the contribution rate decreased from 6.8% to 6.6% of covered payroll due to the increase in payroll.

Required contribution and timing

In 2001, the Board of Education agreed to institute a one-year lag for future years. Therefore, this actuarial valuation is used to determine the actual contribution rate for 2017. The dollar amount of the actual contribution increased to \$39,657,956 for 2017 from \$37,210,752 for 2016. As a percentage of covered payroll, the contribution rate for 2017 increased to 15.73% from 15.14% for 2016.

Summary and Comparison of Principal Valuation Results

Annual Required Contribution

	Board of Education	Retirement System	Charter Schools	Total
2016				
Normal cost contribution	\$ 17,762,876	\$ 43,530	\$ 5,320,726	\$ 23,127,132
Actuarial accrued liability contribution	<u>12,696,558</u>	<u>31,114</u>	<u>3,803,152</u>	<u>\$ 16,530,824</u>
Annual required contribution (ARC)	30,459,434	74,644	9,123,878	\$ 39,657,956
Covered payroll	193,647,262	474,551	58,005,475	\$ 252,127,288
ARC as % of covered payroll	15.73%	15.73%	15.73%	15.73%
2015				
Normal cost contribution	\$ 16,035,241	\$ 43,946	\$ 4,490,782	\$ 20,569,969
Actuarial accrued liability contribution	<u>12,972,260</u>	<u>35,551</u>	<u>3,632,972</u>	<u>\$ 16,640,783</u>
Annual required contribution (ARC)	29,007,501	79,497	8,123,754	\$ 37,210,752
Covered payroll	191,534,175	524,915	53,640,493	\$ 245,699,583
ARC as % of covered payroll	15.14%	15.14%	15.14%	15.14%

	January 1, 2016	January 1, 2015
System Assets		
Expense and contingency reserve	\$ 29,537,454	\$ 29,868,370
Market value, excluding expense & contingency reserve	839,141,595	907,062,130
Actuarial value	915,391,079	926,905,797
System Liabilities		
Unfunded actuarial accrued liability	\$ 162,302,064	\$ 166,687,451
Projected Unit Credit (PUC) Actuarial Accrued Liability	\$1,165,766,472	\$1,166,064,968
PUC Funding Ratios		
Actuarial value funding ratio	78.5%	79.5%
Market value funding ratio	72.0%	77.8%

Analysis of the Valuation

(1) Investment Experience

Our actuarial calculations were based upon the assumption that the System's assets earn 8.00%. The approximate market value rate of return during 2015 was -0.64%. The approximate actuarial value rate of return was 5.69%.

(2) Demographic Experience

The number of active members increased from 5,011 to 5,034 for the period. The average age of active members remained unchanged, the average service decreased by 0.01 years, and the average annual salary decreased \$1,053. There were small changes in the inactive statistics. The membership statistics can be found under Member Census Information.

(3) Salary Increases

The average annual salary increased 2.1% between January 1, 2015 and January 1, 2016. Total annual covered payroll increased 2.6% between January 1, 2015 and January 1, 2016.

(4) Changes in Methods from the Prior Valuation

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

(5) Changes in Assumptions from the Prior Valuation

The healthy mortality assumption was updated for another year of improvement. Details of this assumption change can be found in the Summary of Methods and Assumptions. The net effect of the change was to increase the actuarially required employer contribution by 0.01% of covered payroll.

(6) Changes in Benefit Provisions from the Prior Valuation

There have been no changes in benefit 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, along with the change in assumptions, resulted in a decrease in the funding ratio utilizing the actuarial value of assets from 79.5% to 78.5%. The total contribution rate increased from 15.14% to 15.73% of covered payroll.

Valuation Results

Actuarial Balance Sheet as of January 1, 2016

Actuarial assets

Actuarial value of present assets	\$ 915,391,079
Actuarial present value of future participant contributions	93,310,821
Actuarial present value of future employer contributions for:	
Normal costs	164,647,913
Unfunded actuarial accrued liability	<u>162,302,064</u>
Total present and future assets	\$ 1,335,651,877

Actuarial liabilities

Actuarial present value of benefits now payable	\$ 860,534,740
Actuarial present value of benefits payable in the future:	
Active participants	\$ 447,893,950
Terminated vested participants	20,893,626
Terminated non-vested participants	<u>6,329,561</u>
Total payable in the future	<u>475,117,137</u>
Total liabilities for benefits	\$ 1,335,651,877
Surplus / (deficit)	0

Funding Progress

The Retirement System uses the "frozen entry age actuarial cost" funding method. Please refer to the actuarial Summary of Methods and Assumptions for an explanation on the method. Here is the schedule of the System's funding progress over the last ten years.

Schedule of Funding Progress Last Ten Years

Actuarial Valuation Date January 1,	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) Frozen Entry Age (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Annual Covered Payroll (c)	UAAL as a % of Annual Covered Payroll ((b - a) / c)
2007	\$ 1,003,428,983	\$ 1,150,263,339	\$ 146,834,356	87.2%	\$ 222,387,289	66.0%
2008	\$ 1,014,923,381	\$ 1,158,921,113	\$ 143,997,732	87.6%	\$ 225,190,968	63.9%
2009	\$ 963,851,408	\$ 1,099,891,716	\$ 136,040,308	87.6%	\$ 234,582,326	58.0%
2010	\$ 950,709,944	\$ 1,076,002,070	\$ 125,292,126	88.4%	\$ 241,958,133	51.8%
2011	\$ 944,356,735	\$ 1,066,270,852	\$ 121,914,117	88.6%	\$ 218,308,239	55.8%
2012	\$ 925,389,359	\$ 1,090,318,706	\$ 164,929,347	84.9%	\$ 234,760,091	70.3%
2013	\$ 914,494,335	\$ 1,085,124,658	\$ 170,630,323	84.3%	\$ 225,893,514	75.5%
2014	\$ 922,922,386	\$ 1,093,394,768	\$ 170,472,382	84.4%	\$ 243,280,015	70.1%
2015	\$ 926,905,797	\$ 1,093,593,248	\$ 166,687,451	84.8%	\$ 245,699,583	67.8%
2016	\$ 915,391,079	\$ 1,077,693,143	\$ 162,302,064	84.9%	\$ 252,127,288	64.4%

Valuation Results

Projected Unit Credit Funding Ratios

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

Funding ratios provide a measure of how much progress has been made towards achieving this objective. For this purpose, the System's liabilities are determined using the projected unit credit cost method. Under this method, liabilities are determined for each participant using only service already performed, but anticipating the impact of future salary growth on the projected pension obligation attributable to current active participants.

Here is a comparison of this liability measure to the value of assets to produce a snapshot measure of the System's funding ratios.

Projected Unit Credit Funding Status

As of January 1, 2016 the Projected Unit Credit Actuarial Accrued Liability (AAL) was:

1. Retired members and beneficiaries currently receiving pensions and terminated members not yet receiving pensions	\$ 887,757,927
a. Current active participants	
i. Accumulated member contributions, including interest	120,507,482
ii. Employer-financed pensions	<u>157,501,063</u>
Total Projected Unit Credit Actuarial Accrued Liability	\$ 1,165,766,472

As of January 1, 2016 the Projected Unit Credit AAL was funded as follows:

2. Net assets available for pensions at actuarial value	\$ 915,391,079
3. Unfunded Projected Unit Credit AAL at actuarial value	250,375,393
4. Actuarial value funding ratio, (2) / (1)	78.5%
5. Net assets available for pensions at market value	\$ 839,141,595
6. Unfunded Projected Unit Credit AAL at market value	326,624,877
7. Market value funding ratio, (5) / (1)	72.0%

Valuation Results

Prioritized Solvency Test

Another way to check the funding progress of the System is through a prioritized solvency test. In a prioritized solvency test, the plan's present assets (cash and investments) are sequentially allocated and compared with three priorities of liabilities as follows:

- Liability 1: Active participant contributions, accumulated with interest;
- Liability 2: The liabilities for future benefits to current inactive participants and beneficiaries; and
- Liability 3: The liabilities for future benefits to current active participants for prior service.

Ideally, progress in funding of these liability groups will normally be exhibited with Liability 1 attaining 100% coverage first, then Liability 2, and finally Liability 3. Note that 100% funding of Liability 3 does not mean that the System has completed its funding of benefits since additional benefits typically are expected to be earned in the future. Here is a history of the System's funding progress under this test.

Prioritized Solvency Test Results (1999 – 2016)

Valuation date January 1	Active participants' accumulated contributions	Retirees, beneficiaries and inactive participants	Active participants (employer-financed)	Valuation 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%

Retirement System Assets

Actuarial Value of Assets

The amount of assets used in the actuarial valuation is known as the "actuarial value of assets." The method is discussed under the Summary of Methods and Assumptions. The development of the actuarial value of assets is shown here.

Development of the Actuarial Value of Assets

1. Actuarial value of assets as of January 1, 2015	\$ 926,905,079
2. Participant contributions	11,664,711
3. Employer contributions	40,708,503
4. Benefit payments and expenses	114,850,590
5. Investment increment at 8.00%, $8\% \times \{(1) + .5 \times [(2) - (4)]\}$	<u>70,025,029</u>
6. Expected actuarial value on January 1, 2016, (1) + (2) + (3) - (4) + (5)	934,453,450
7. Market value of assets on January 1, 2016	868,679,049
8. Expense and contingency reserve on January 1, 2016, prior to adjustment	29,537,454
9. Adjustment to the investment contingency reserve	<u>0</u>
10. Excess of market value over expected actuarial value, (7) - (6) - (8) - (9)	(95,311,855)
11. Market value adjustment, $20\% \times (10)$	<u>(19,062,371)</u>
12. Actuarial value of assets as of January 1, 2016, (6) + (11)	915,391,079

Retirement System Assets

Expense and Contingency Reserve

An important element in the development of the actuarial value of assets is the expense and contingency reserve. The amount of the reserve is determined pursuant to a policy adopted by the Board of Trustees.

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 is intended to help cover significant shortfalls in the actuarial rate of return. When a shortfall of more than 1% occurs, a portion of the reserve is released equal to one half of the amount of the shortfall up to 2% plus any remaining shortfall. When the rate of return exceeds the assumed rate of return by more than 1%, the reserve is increased subject to a maximum reserve of 5% of the market value of the Retirement Fund. The addition equals one half of the amount of the excess up to 2% plus any remaining excess.

Here is the history of the expense and contingency reserve:

History of the Expense and Contingency Reserve (1997 – 2016)

January 1	Expense reserve	Investment contingency reserve	Total expense and contingency reserve
1997	\$25,403,190	\$ 5,220,821	\$30,624,011
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

Retirement System Assets

Investment Performance

The fund had a rate of return of 5.69% on an actuarial value basis, which is 2.31% below the assumed rate of return of 8.00%. In accordance with Rule X, referenced in the previous section, an amount would typically be released from the investment contingency portion of the reserve, because the actuarial rate of return was more than 1.00% below the assumed rate of return. However, the contingency reserve was exhausted at January 1, 2009, so no additional amounts are available to use for adjusting the reserve.

The rate of return on an actuarial value basis is intended to be a more stable rate of return and fluctuate less than the rate of return on a market value basis. Thus, the rate of return on an actuarial basis is not always a fair measure of the annual investment performance of the fund. An indicator of actual performance during the year is the rate of return on a market value basis, which shows a loss of 0.64%.

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

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, 2015	\$ 936,930,500
ii.	B = Market value of assets as of January 1, 2016	868,679,049
iii.	C = Contributions during the period	52,373,214
iv.	D = Disbursements during the period	114,850,590
v.	Rate of return: $\frac{B - A + D - C}{A + \frac{1}{2}(C - D)}$	-0.64%
vi.	Actuarial assumed rate of return for 2015	8.00%
vii.	Difference between actual and assumed rates of return, (v) – (vi)	-8.64%

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, 2015	\$ 926,905,797
ii.	B = Actuarial value of assets as of January 1, 2016	915,391,079
iii.	C = Contributions during the period	52,373,214
iv.	D = Disbursements during the period	114,850,590
v.	Rate of return: $\frac{B - A + D - C}{A + \frac{1}{2}(C - D)}$	5.69%
vi.	Actuarial assumed rate of return for 2015	8.00%
vii.	Difference between actual and assumed rates of return, (v) – (vi)	-2.31%

Basis of the Valuation

Plan Provisions and Members Census

The plan provisions of the System and the census of members are the foundation of the valuation, since these are the present facts upon which benefit payments will depend.

Summary of Plan Provisions

Participants

All persons regularly employed by the board of education, charter schools, and employees 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 85 (Rule of 85)

Early

Age 60 with 5 years of service

Service retirement allowance

- a. 2% (1-1/4% if terminated prior to July 1, 1999) 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 your employer pays towards your 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 85 would have been satisfied had the employee 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 an employee 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.

Basis of the Valuation

Summary of Plan Provisions (continued)

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 a month.
- b. A widow with dependent, unmarried children under age 22 receives \$60 a 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.

Basis of the Valuation

Summary of Plan Provisions (continued)

Return of contributions upon death

If after the death of a participant, no further monthly benefits 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.

DROP

Effective July 1, 2001, active participants may elect to enter the deferred retirement option plan (DROP) for up to four years. Upon entering the DROP, the participant's retirement benefit is frozen and credited to the participant's DROP account. At the end of the DROP, or upon earlier termination of employment, the DROP account is paid in a lump sum or installments, at the participant's option. During the DROP, the participant continues as an active participant, but does not pay contributions. To enter the DROP the participant must be age 65 or meet the Rule of 85. The DROP program is no longer available, ending June 30, 2008.

Contributions by participants

Participants contribute 5% of compensation. Accumulated contributions are credited at the rate of interest established by the board of trustees. The current crediting rate is 5%.

Contributions by employers

As needed to keep the System actuarially sound.

Expenses

Administrative expenses paid out of investment income.

Basis of the Valuation

Member Census (Last Two Years)

As of January 1	2015	2016
Active Members		
Number	5,011	5,034
Average Age	43.77	43.77
Average Service	7.94	7.93
Average Annual Base Pay	\$ 49,032	\$ 50,085
Vested Terminated Members		
Number	473	479
Average Account Balance	\$ 28,080	\$ 28,905
Non-vested Terminated Members		
Number	1,539	1,792
Average Account Balance	\$ 3,485	3,532
Benefit Recipients		
Number	4,624	4,587
Average Age	73.35	73.66
Average Monthly Benefit	\$ 1,894	\$ 1,913

Note: Please see the Statistical Section for a ten-year history of the System's membership census.

Schedule of Active Member Valuation Data (Last Six Years)

<u>Plan Year</u>	<u>Number of Active Members</u>	<u>Annual Payroll</u>	<u>Average Annual Pay</u>	<u>% Increase in Average Pay</u>
2011	4,336	218,308,928	50,348	0.40%
2012	4,784	234,703,040	49,060	-2.56%
2013	4,786	225,894,414	47,199	-3.79%
2014	4,880	243,277,760	49,852	5.62%
2015	5,011	245,699,352	49,032	-1.64%
2016	5,034	252,127,288	50,085	2.15%

Schedule of Retirees & Beneficiaries Added or Removed from Rolls (Last Six Years)

<u>Plan Year</u>	<u>Added to Rolls</u>		<u>Removed from Rolls</u>		<u>Rolls – End of Year</u>		<u>% Increase in Annual Allowances</u>	<u>Average Annual Allowance</u>
	<u>No.</u>	<u>Annual Allowances</u>	<u>No.</u>	<u>Annual Allowances</u>	<u>No.</u>	<u>Annual Allowances</u>		
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

Note: The retirement system began tracking changes to Retiree Payroll around five years ago. The changes will appear in the schedule above as they occur with each new fiscal year.

Basis of the Valuation

Summary of Methods and Assumptions

The valuation is based upon the premise that the System will continue in existence, so that future events must also be considered. These future events are assumed to occur in accordance with the actuarial assumptions and concern such events as the earnings of the fund; the number of members who will retire, die or terminate their services; their ages at such termination and their expected benefits.

The following actuarial assumptions and the actuarial cost or funding method have been adopted to guide the Board of Trustees in funding the System in a reasonable and acceptable manner.

Interest

8.0% per annum.

Participant account interest crediting rate

5.0% per annum.

Expenses

The rate of interest assumed is net of expenses.

Mortality

Mortality tables mandated by the Pension Protection Act as specified in IRS Regulation 1.430(h) (3)-1, applied on a static basis, projected 7 years from the valuation date for annuitants and 15 years for non-annuitants.

Disability Mortality

The RP-2000 Disability Mortality Table is used for disabled participants.

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 employees	Charter school employees
1 st	25.0%	30.0%
2 nd	20.0%	25.0%
3 rd	15.0%	20.0%
4 th	12.5%	15.0%
5 th	10.0%	10.0%

Salary scale

Salaries are assumed to increase at the rate of 4.5% per year.

Disability

Disabilities are assumed to occur at rates based on the actual experience of the retirement system.

Retirement

Retirements occur at rates based on the actual experience of the retirement system. Unless the age-related rate is greater, for those eligible to retire under the Rule of 85, it is assumed that 25% will retire when first eligible for unreduced benefits with at least 30 years of credited service.

Basis of the Valuation

Summary of Methods and Assumptions (continued)

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. For married participants, husbands are assumed to be 3 years older than their wives.

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) or an additional monthly payment to retirees (13th check.) This valuation assumes that no future COLAs and no future 13th checks will be awarded.

Actuarial Method – Frozen Entry Age

The actuarial cost method used by the System is the "frozen entry age actuarial cost method." Under this method, on the initial actuarial valuation date for which the cost method is used, the annual cost accruals (individual normal costs for each participant) are determined as a level percentage of pay for each year from entry age until retirement or termination. The UFAAL was originally determined as of January 1, 1981. Entry age is determined at the date each participant would have entered the System. The sum of these individual normal costs for all active participants whose attained ages are under the assumed retirement age is the normal cost for the initial plan year. The excess of all normal costs falling due prior to the initial actuarial valuation date, accumulated with interest, over the plan assets establishes the initial Unfunded Frozen Actuarial Accrued Liability (UFAAL).

The UFAAL is only frozen in that it is not adjusted due to experience gains and losses. Instead, gains and losses are reflected through changes in the normal cost accrual rate. The UFAAL does change, increasing due to interest and additional normal costs, and decreasing due to contributions. Any changes to plan provisions or actuarial assumptions result in a change to the UFAAL. The amount of the change is determined by computing the impact in the actuarial accrued liability as of the valuation date coincident with or next following the change.

Normal costs are calculated as the level percentage of pay required to fund the excess of the actuarial present value of future benefits over the sum of the actuarial value of current assets and the remaining UFAAL.

Effective January 1, 2006, UFAAL was reestablished to better reflect an appropriate relationship between the normal cost and the actuarial accrued liability.

The funding requirement for each plan year is the sum of the "normal cost contribution" (equal to the normal cost for that year), plus the "actuarial accrued liability contribution." The "actuarial accrued liability contribution" is the payment required to amortize the UFAAL over 30 years, from January 1, 2006, the date that it was reestablished.

Basis of the Valuation

Summary of Methods and Assumptions (continued)

Valuation of Assets

The actuarial value of assets is determined using the assumed yield method of valuing assets. Under the assumed yield asset valuation method, the prior year's actuarial value is increased at the assumed rate of return with appropriate adjustments for contributions and disbursements to produce an expected actuarial value of assets at the end of the year. The expected actuarial value is compared to the market value of assets less the expense and contingency reserve, and 20% of the difference is added to the expected actuarial value. The actuarial value of assets was "fresh-started" as of January 1, 2006 and set equal to the market value of assets as of that date.

Changes from the Prior Valuation

The mortality table for non-disabled members was updated to the IRS Static Mortality Tables mandated for use by private pension plans for the 2016 plan year. Different tables are used for Non-Annuitants and Annuitants (pre-commencement and post-commencement of pension benefits).

Non-Annuitant Rates of Withdrawal, Disability and Retirement

Attained Age	<u>Withdrawal Rates</u>		<u>Disability Rates</u>		Retirement Rate*
	<u>Males</u>	<u>Females</u>	<u>Males</u>	<u>Females</u>	
20	18.50%	18.50%	.000%	.000%	0.00%
25	15.50%	15.50%	.000%	.000%	0.00%
30	11.00%	11.00%	.040%	.040%	0.00%
35	9.00%	9.00%	.040%	.040%	0.00%
40	7.50%	7.50%	.080%	.075%	0.00%
45	4.00%	4.00%	.150%	.100%	0.00%
50	2.50%	2.50%	.200%	.150%	0.00%
55	2.00%	2.00%	.450%	.250%	0.00%
60	1.50%	1.50%	.550%	.325%	10.00%
65	0.00%	0.00%	.000%	.000%	35.00%
70	0.00%	0.00%	.000%	.000%	30.00%
72	0.00%	0.00%	.000%	.000%	100.00%

*The retirement rate for all members 60 years old or less is 20% under the "Rule of 85."

Basis of the Valuation

Summary of Methods and Assumptions (continued)

Non-Annuitant Mortality Rates

Death Rates			Death Rates		
Male	Age	Female	Male	Age	Female
.000380	30	.000193	.018448	75	.015385
.000662	35	.000337	.051083	80	.039034
.000841	40	.000442	.094233	85	.067435
.001005	45	.000682	.167257	90	.122890
.001217	50	.000985	.255453	95	.185756
.001671	55	.001969	.271129	96	.196137
.002959	60	.003365	.286358	97	.210344
.004892	65	.004983	.308123	98	.218852
.006210	70	.006517	.322695	99	.226123

Annuitant Mortality Rates

Death Rates			Death Rates		
Male	Age	Female	Male	Age	Female
.000380	30	.000193	.027356	75	.023365
.000662	35	.000337	.051083	80	.039034
.000841	40	.000442	.094233	85	.067435
.001572	45	.000689	.167257	90	.122890
.003521	50	.001580	.255453	95	.185756
.003798	55	.002935	.271129	96	.196137
.005656	60	.005525	.286358	97	.210344
.009703	65	.009235	.308123	98	.218852
.015686	70	.014919	.322695	99	.226123

Disability Mortality Rates

Death Rates			Death Rates		
Male	Age	Female	Male	Age	Female
.022571	30	.007450	.082067	75	.052230
.022571	35	.007450	.109372	80	.072312
.022571	40	.007450	.141603	85	.100203
.022571	45	.007450	.183408	90	.140049
.028975	50	.011535	.267491	95	.194509
.035442	55	.016544	.283905	96	.205379
.042042	60	.021839	.299852	97	.215240
.050174	65	.028026	.315296	98	.223941
.062583	70	.037635	.330207	99	.231387

“prudently administered in an effective and efficient manner.”

Statistical Section

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Summary

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

The first part, found on page 89, 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 90 - 94, 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 2016.

There are several charts and graphs on page 95 that contain histories 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 detail on the plan's legislative history that began on January 1, 1944.

**Schedules of Changes in Fiduciary Net Position
Last 10 Fiscal Years**

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

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

Fiscal Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Additions by source				(as restated)				(as restated)		
Employer contributions	\$ 22,445,608	\$ 27,853,996	\$ 28,598,502	\$ 26,075,146	\$ 28,720,193	\$ 29,551,964	\$ 37,034,907	\$ 41,757,458	\$ 40,708,503	\$ 39,519,979
Employee contributions	10,791,580	11,537,258	12,131,979	11,188,919	11,879,052	12,147,663	11,814,124	11,887,933	11,664,711	12,652,029
Investment income (loss)	103,030,906	(259,438,857)	146,071,959	115,925,274	(5,319,851)	97,514,207	129,102,935	34,857,035	(5,488,658)	44,341,661
Other income			71,391	127,426	131,119	134,813	138,506	143,754	146,007	150,427
Total additions(depreciation)	136,268,094	(220,047,603)	186,873,831	153,316,765	35,410,513	139,348,647	178,090,472	88,646,180	47,030,563	96,664,096
Deductions by type*										
Retirement benefits	86,928,394	93,852,021	97,129,242	99,277,919	96,303,329	96,073,967	98,000,369	99,874,101	99,634,429	99,419,975
Survivor benefits					2,540,407	2,595,094	2,654,895	2,784,937	2,877,844	2,973,225
Disability benefits					3,149,322	3,246,806	3,402,037	3,524,388	3,510,745	3,479,852
Health care subsidies	2,726,258	2,781,111	2,794,544	2,808,370	2,825,430	2,752,751	2,726,158	2,696,001	2,600,225	2,515,000
Operating expenses	1,558,874	1,576,882	1,415,026	1,499,302	1,432,914	1,450,265	1,441,183	1,350,390	1,466,261	1,554,314
Contribution refunds	18,559,040	22,910,310	3,765,085	3,203,714	3,242,200	4,773,609	3,690,639	4,203,229	4,761,086	5,220,357
Total deductions by type	109,772,566	121,120,324	105,103,897	106,789,305	109,493,602	110,892,492	111,915,281	114,433,046	114,850,590	115,162,723
Changes in plan net assets	\$ 26,495,528	\$ (341,167,927)	\$ 81,769,934	\$ 46,527,460	\$ (74,083,089)	\$ 28,456,155	\$ 66,175,191	\$ (25,786,866)	\$ (67,820,027)	\$ (18,498,627)

*Note: The retirement system began providing dollar breakouts of retirement, survivor and disability benefits back to fiscal year 2011 with the annual report for the fiscal year ended December 31, 2013. Prior to fiscal year 2011, this detail is combined in the retirement benefits line item. This detailed information will appear in the schedule of changes in fiduciary net position as it occurs.

Retirement Benefit Schedules

Public School Retirement System of the City of St. Louis

Retired Members and Beneficiaries By Payment Option & Type On January 1, 2016

Option	Service Benefit	Disability Benefit	Survivor Benefit	Total
0	3,410	200	307	3,917
1	135	17	-	152
2	83	5	-	88
3	183	16	-	199
4	182	6	-	188
5	21	4	-	25
6	11	6	-	17
7	1	-	-	1
Total	4,026	254	307	4,587

Amount of Annual Benefits By Payment Option & Type On January 1, 2016

Option	Service Benefit	Disability Benefit	Survivor Benefit	Total
0	\$ 84,559,891	\$ 2,794,350	\$ 3,421,708	\$ 90,775,949
1	2,555,597	237,245	-	2,792,842
2	1,917,967	124,270	-	2,042,237
3	3,739,065	216,148	-	3,955,213
4	4,709,722	131,227	-	4,840,949
5	545,404	34,567	-	579,971
6	227,130	50,744	-	277,874
7	30,849	-	-	30,849
Total	\$ 98,285,625	\$ 3,588,551	\$ 3,421,708	\$ 105,295,884

- 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.

Retirement Benefit Schedules

Public School Retirement System of the City of St. Louis

Average Annual Benefit Payments By Payment Option & Type On January 1, 2016

Option	Service Benefit	Disability Benefit	Survivor Benefit	All
0	\$ 24,798	\$ 13,972	\$ 11,146	\$ 23,175
1	18,930	13,956	-	18,374
2	23,108	24,854	-	23,207
3	20,432	13,509	-	19,875
4	25,878	21,871	-	25,750
5	25,972	8,642	-	23,199
6	20,648	8,457	-	16,346
7	30,849	-	-	30,849
All	\$ 24,365	\$ 14,128	\$ 11,146	\$ 22,955

Average Monthly Benefit Payments By Payment Option & Type On January 1, 2016

Option	Service Benefit	Disability Benefit	Survivor Benefit	All
0	\$ 2,067	\$ 1,164	\$ 929	\$ 1,931
1	1,578	1,163	-	1,531
2	1,926	2,071	-	1,934
3	1,703	1,126	-	1,656
4	2,157	1,823	-	2,146
5	2,164	720	-	1,933
6	1,721	705	-	1,362
7	2,571	-	-	2,571
All	\$ 2,030	\$ 1,177	\$ 929	\$ 1,913

- 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.

Retirement Benefit Schedules

Public School Retirement System of the City of St. Louis

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

Retirement Year(s)	Years of Service						
	0 - 5	6 - 10	11 - 15	16 - 20	21 - 25	26 - 30	31+
2012							
Average Monthly Benefit	\$399	\$620	\$1,143	\$1,457	\$2,171	\$3,234	\$3,767
Average Monthly Salary	\$3,809	\$4,025	\$4,642	\$4,856	\$4,977	\$5,901	\$6,162
Number of Retirees	5	32	23	19	25	34	15
2013							
Average Monthly Benefit	\$414	\$617	\$985	\$1,655	\$2,438	\$3,105	\$3,564
Average Monthly Salary	\$3,920	\$4,043	\$4,170	\$4,771	\$5,351	\$5,527	\$5,888
Number of Retirees	7	36	50	27	58	73	33
2014							
Average Monthly Benefit	\$538	\$674	\$1,077	\$1,908	\$2,311	\$3,382	\$3,035
Average Monthly Salary	\$6,007	\$4,553	\$4,639	\$5,438	\$5,143	\$5,882	\$5,123
Number of Retirees	8	24	15	18	18	26	22
2015							
Average Monthly Benefit	\$307	\$604	\$1,188	\$1,513	\$2,356	\$3,031	\$3,829
Average Monthly Salary	\$3,211	\$3,624	\$4,624	\$4,526	\$5,183	\$5,305	\$6,436
Number of Retirees	8	20	27	17	18	27	16
2016							
Average Monthly Benefit	\$539	\$682	\$986	\$1,638	\$2,608	\$2,951	\$3,476
Average Monthly Salary	\$5,156	\$3,971	\$4,327	\$4,718	\$5,570	\$5,393	\$5,793
Number of Retirees	6	17	17	30	16	24	14
2012 - 2016							
Average Monthly Benefit	\$438	\$635	\$1,065	\$1,636	\$2,381	\$3,137	\$3,508
Average Monthly Salary	\$4,421	\$4,043	\$4,481	\$4,862	\$5,245	\$5,602	\$5,880
Number of Retirees	34	129	132	111	135	184	100

Schedule of Covered Members

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

**Schedule of Covered Members
Last Ten Fiscal Years Ended December 31st**

	2016		2015		2014		2013		2012	
Member Type	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	5,034	42.3%	5,011	43.0%	4,880	42.9%	4,786	43.7%	4,784	42.4%
Inactive	2,271	19.1%	2,012	17.3%	1,798	15.8%	1,643	15.0%	1,958	17.4%
Retired (includes Beneficiaries)	4,587	38.6%	4,624	39.7%	4,689	41.3%	4,516	41.3%	4,540	40.2%
Total	11,892	100%	11,647	100%	11,367	100%	10,945	100%	11,282	100%

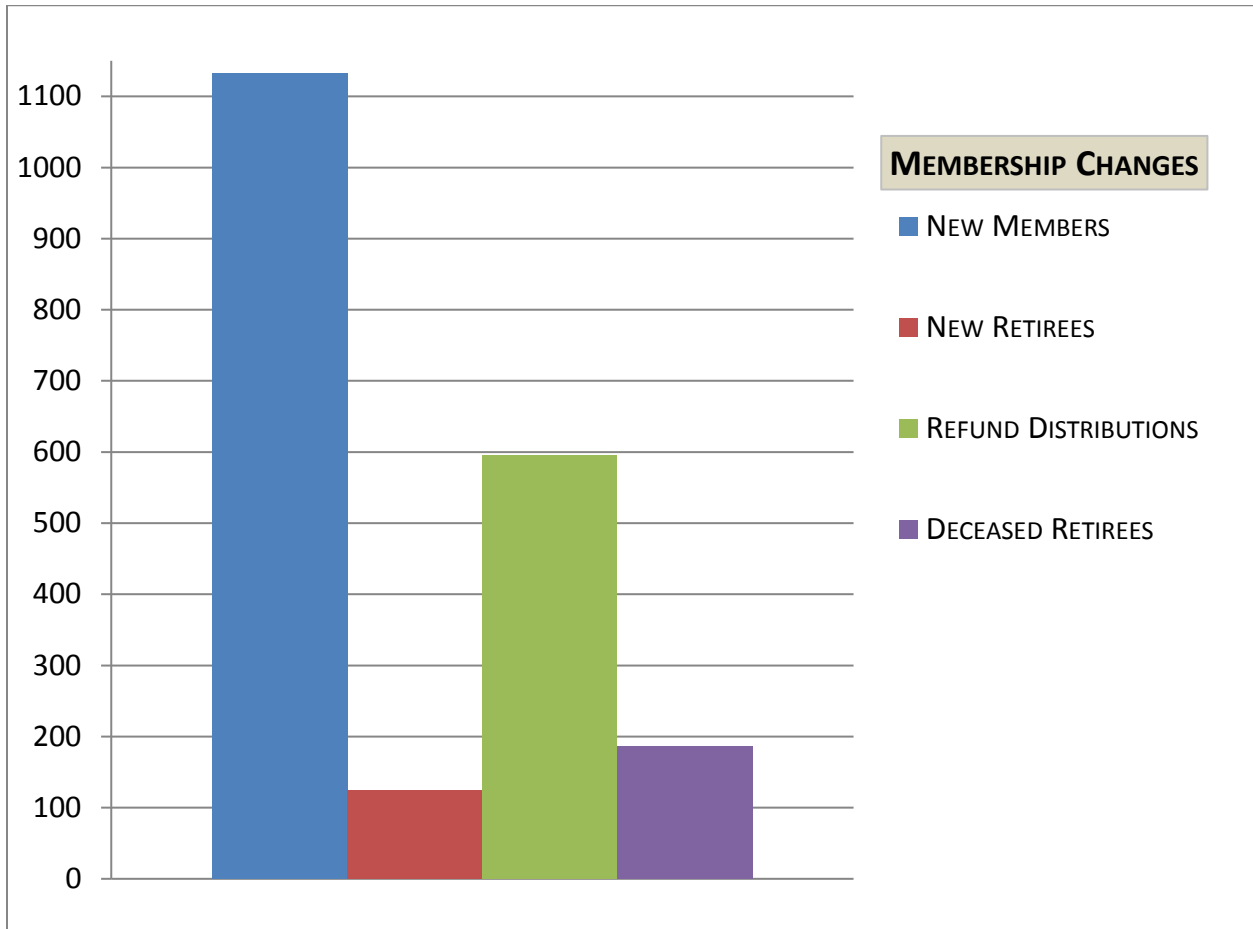
	2011		2010		2009		2008		2007	
Member Type	Covered Members	Percentage of Total	Covered Members	Percentage of Total	Covered Members	Percentage of Total	Covered Members	Percentage of Total	Covered Members	Percentage of Total
Active	4,336	40.0%	4,825	43.5%	5,085	45.4%	5,021	45.2%	5,010	47.3%
Inactive	1,935	17.8%	1,896	17.1%	1,543	13.8%	1,635	14.7%	1,488	14.1%
Retired (includes Beneficiaries)	4,587	42.2%	4,370	39.4%	4,570	40.8%	4,456	40.1%	4,084	38.6%
Total	10,858	100%	11,091	100%	11,198	100%	11,112	100%	10,582	100%

Summary of Membership Changes

The Year in Review

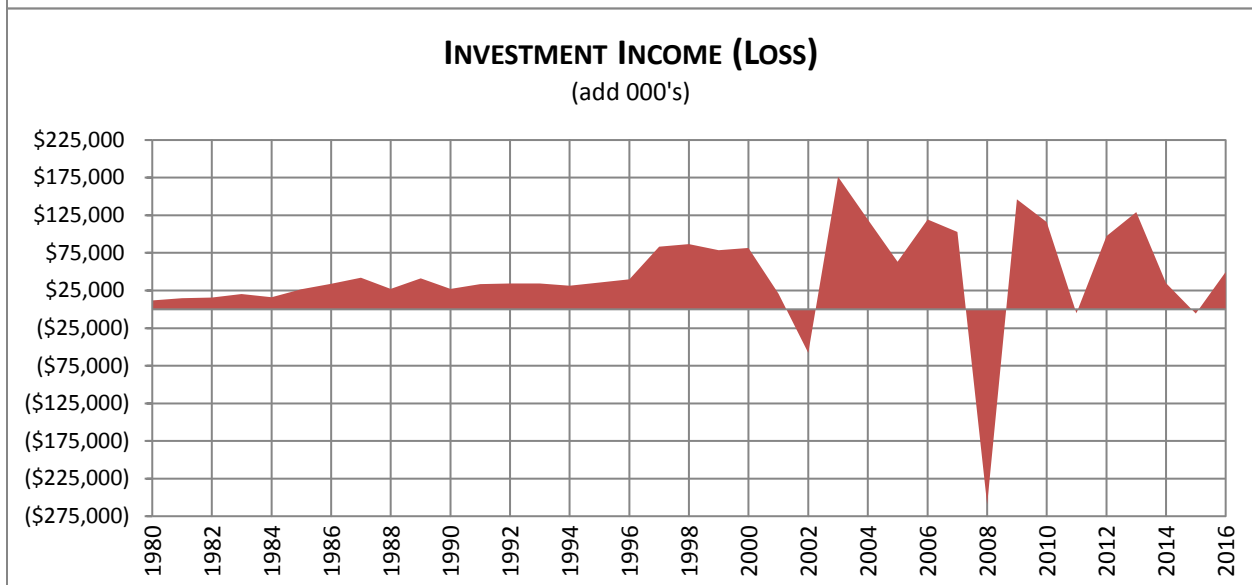
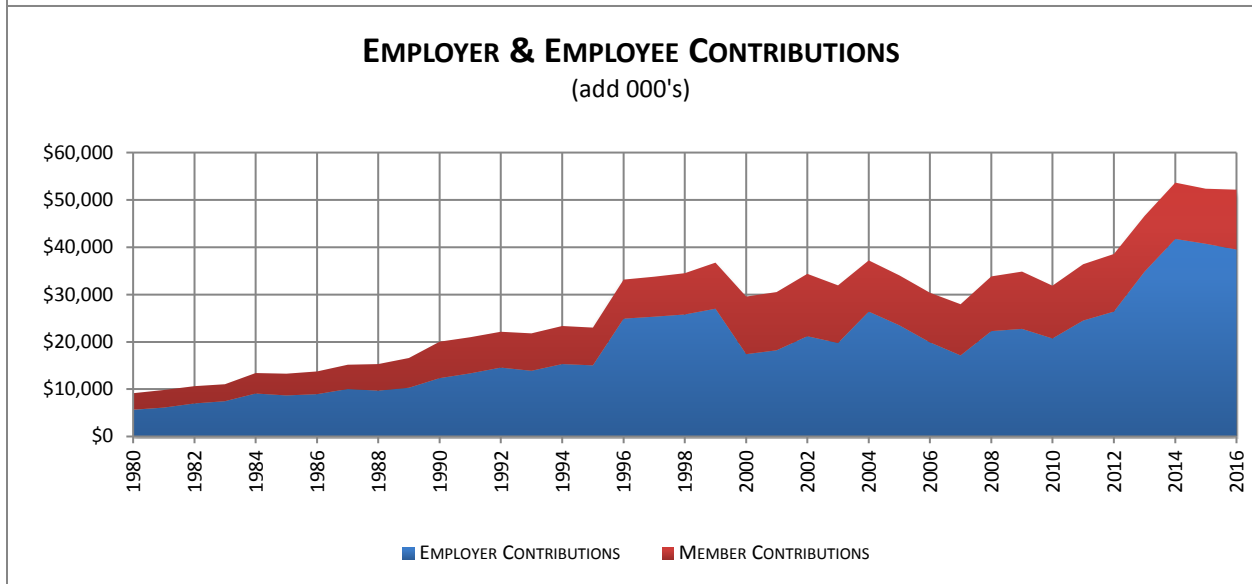
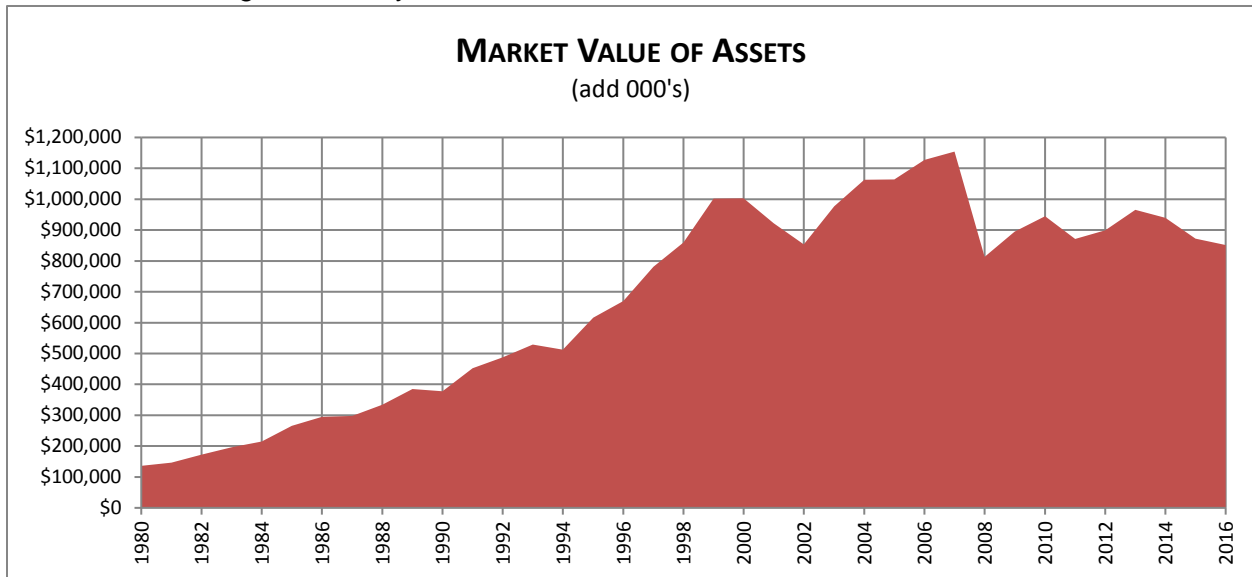
During the fiscal year ended December 31, 2016, PSRSSTL added 1,133 new members and 124 new retirees to payroll. The retirement system processed 596 refund distributions for members who left the System and bid farewell to 187 retirees due to death.

Fiscal Year 2016



Charts and Graphs

These charts and graphs show changes in market value of assets, contributions, and investment earnings for fiscal years ended December 31, 1980 thru December 31, 2016.



Public School Retirement System of the City of St. Louis

- 1944 - Missouri General Assembly formed the retirement system for all full-time employees of the St. Louis Board of Education
- 1961 - Plan provisions revised for all future employees, active participants given option to remain in the "old plan" or upgrade to the "new plan"
- 1969 - Credited Service allowed for time lost from 1944 - 1947
- 1972 - Various Credited Service options added, "old plan" participants granted another opportunity to upgrade to the "new plan," introduction of survivor, disability and minimum benefits
- 1975 - First increase in benefits granted to certain teacher retirees
- 1978 - Plan provisions upgraded and revised, credited service limits removed, survivor benefits revised, employee contribution rate set at 3% of compensation, Trustees granted rule-making authority, first back-to-work provision for certain 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 to the "frozen entry age cost method," several administrative changes were made that included the broadening of investment authority for the Board of Trustees
- 1984 - Survivor and disability benefits upgraded, second back-to-work provision added for certain retirees
- 1985 - First supplemental early retirement benefit added for certain retirees
- 1987 - "Old plan" participants granted another opportunity to join "new plan," increased the minimum retirement benefit, several administrative changes made
- 1988 - Survivor and supplemental benefits enhanced
- 1989 - Certain plan provisions were improved
- 1990 - Supplemental benefits extended for certain retirees
- 1993 - Supplemental benefits enhanced for certain retirees
- 1996 - Credited service purchase allowed for certain periods of lay-offs, investment trustee position replaced with school administrator trustee position, COLA provisions added
- 1997 - COLA provision added for certain retirees
- 1998 - Employee Contribution rate increased to 4.5%, pension factor set at 2%, catch-up COLA for certain retirees, Board of Education agreed to 8.3% employer contribution rate for three years
- 1999 - Employee contribution rate set at 5%
- 2001 - COLA provisions added for certain retirees, DROP added until 2005, employer contribution rate set at 8%, actuary to determine annual employer contribution rate 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, social security leveling pension benefit options introduced, actuarial provisions revised to allow the Board of Trustees more flexibility, amortization limit set at 30 years
- 2007 - Several administrative changes were made, including to allow the Board of Trustees to grant an increase in pension benefits provided certain conditions are met, Board of Trustees annual 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

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