STATE OF MINNESOTA
Office of the State Auditor

Julie Blaha
State Auditor

ST. PAUL TEACHERS' RETIREMENT FUND ASSOCIATION
ST. PAUL, MINNESOTA

YEAR ENDED JUNE 30, 2018

Description of the Office of the State Auditor

The mission of the Office of the State Auditor is to oversee local government finances for Minnesota taxpayers by helping to ensure financial integrity and accountability in local governmental financial activities.

Through financial, compliance, and special audits, the State Auditor oversees and ensures that local government funds are used for the purposes intended by law and that local governments hold themselves to the highest standards of financial accountability.

The State Auditor performs approximately 150 financial and compliance audits per year and has oversight responsibilities for over 3,300 local units of government throughout the state. The office currently maintains five divisions:

Audit Practice - conducts financial and legal compliance audits of local governments;

Government Information - collects and analyzes financial information for cities, towns, counties, and special districts;

Legal/Special Investigations - provides legal analysis and counsel to the Office and responds to outside inquiries about Minnesota local government law; as well as investigates allegations of misfeasance, malfeasance, and nonfeasance in local government;

Pension - monitors investment, financial, and actuarial reporting for approximately 600 public pension funds; and

Tax Increment Financing - promotes compliance and accountability in local governments' use of tax increment financing through financial and compliance audits.

The State Auditor serves on the State Executive Council, State Board of Investment, Land Exchange Board, Public Employees Retirement Association Board, Minnesota Housing Finance Agency, and the Rural Finance Authority Board.

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ST. PAUL TEACHERS' RETIREMENT FUND ASSOCIATION
ST. PAUL, MINNESOTA

Year Ended June 30, 2018

Audit Practice Division
Office of the State Auditor
State of Minnesota

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ST. PAUL TEACHERS' RETIREMENT FUND ASSOCIATION
ST. PAUL, MINNESOTA

TABLE OF CONTENTS

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Introductory Section

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ST. PAUL TEACHERS' RETIREMENT FUND ASSOCIATION
ST. PAUL, MINNESOTA

BOARD OF TRUSTEES
JUNE 30, 2018

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Financial Section

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STATE OF MINNESOTA
OFFICE OF THE STATE AUDITOR

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INDEPENDENT AUDITOR'S REPORT

Board of Trustees
St. Paul Teachers' Retirement Fund Association
St. Paul, Minnesota

Report on the Financial Statements

We have audited the accompanying financial statements of the St. Paul Teachers' Retirement Fund Association as of and for the year ended June 30, 2018, and the related notes to the financial statements, which collectively comprise the Association's basic financial statements, as listed in the table of contents.

Management's Responsibility for the Financial Statements
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.

Auditor's Responsibility
Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit 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 Association'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 Association'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.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the fiduciary net position of the St. Paul Teachers' Retirement Fund Association as of June 30, 2018, and the changes in fiduciary net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matter

Required Supplementary Information

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

/s/Julie Blaha

JULIE BLAHA
STATE AUDITOR

/s/Greg Hierlinger

GREG HIERLINGER, CPA
DEPUTY STATE AUDITOR

January 10, 2019

MANAGEMENT'S DISCUSSION AND ANALYSIS

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ST. PAUL TEACHERS' RETIREMENT FUND ASSOCIATION
ST. PAUL, MINNESOTA

MANAGEMENT'S DISCUSSION AND ANALYSIS
JUNE 30, 2018
(Unaudited)

The following discussion and analysis provides an overview of the financial performance and actuarial status of the St. Paul Teachers' Retirement Fund Association (hereinafter SPTRFA, Plan, System, or Fund) for the fiscal year ended June 30, 2018. It is intended to assist the reader in understanding the Plan's financial statements and financial activities during the past year.

Financial Highlights

+ The key source of consistent funding for the Plan is employer and employee contributions. The amount of contributions received in any given year is a function of both the applicable statutory contribution rates in effect and the total amount of covered payroll subject to those rates. Legislation enacted on May 31, 2018, the 2018 Omnibus Pension and Retirement Bill (the "2018 Pension Bill" or the "Bill"), provides for significant contribution increases that are intended to address, among other things, historic employer underfunding and costs associated with increased member longevity. With respect to contributions, the Bill provides for 1) a state funded employer contribution increase of 2.5%, phased-in over six years, and 2) an employee contribution increase of 0.25% in fiscal year 2023. The Bill was a significant factor in improving the Plan's contribution sufficiency/(deficiency) from a deficiency of 0.52% of pay in fiscal year 2017 to a sufficiency of 2.69% in fiscal year 2018. Although the current trend for SPTRFA contributions is positive, the adequacy of contributions as a source of funding is critically important and must be monitored closely. Changes in demographics or other factors that would result in a reduction in the number of active, contributing members would have a negative impact on the financial stability of the Plan.

+ In addition to employer and employee contributions, the Plan has benefited from continued supplemental State funding that is intended to address, in part, historic underfunding of employer contributions, which had contributed to the Fund's reduced funded ratio. The 2018 Pension Bill includes a $5 million increase to the Plan's annual State supplemental funding which is scheduled to continue until either the Plan is 100 percent funded, or June 30, 2048, whichever occurs earlier.

+ While the Fund's investment portfolio is a significant contributor to the Plan's overall funding, its returns are dependent on market conditions and, therefore, are variable from year to year. In fiscal year 2018, the Fund's investment portfolio returned 9.75 percent (net of fees), exceeding the Fund's internal long-term return target of 8 percent. Variability in the portfolio's performance impacts the Fund's overall funded ratio in any given year - returns in excess of 8 percent contribute to a decrease in the actuarial value of liabilities, while returns below 8 percent contribute to an increase in the Fund's actuarial value of liabilities.

+ Annuity benefit payments account for a majority of Fund cash outflows. In fiscal year 2018, annuity benefit payments increased 2.24 percent over the prior year to $115.29 million. For fiscal year 2018, the ratio of contributions received (employee, employer, and State supplemental) to annuity benefit payments decreased slightly from 51.9 percent to 51.5 percent. This was due, in part, to the cumulative impact of the current and historic employer contribution deficiency. Increased funding provided in the 2018 Pension Bill is intended to address this issue.

+ The actuarial funded ratio of the Plan compares the actuarial value of assets (smoothed over a rolling five-year period) against the actuarially determined accrued liability. That ratio decreased modestly, from 64.5 percent to 63.7 percent as of June 30, 2018, as the initial impact of the 2018 Pension Bill, which included significant Plan assumption changes, such as increased longevity rates, was reflected in increased liabilities. The negative impact of the Plan assumption changes is expected to be of short duration, as the positive impact of increased contributions and various benefit changes gradually increases the Plan's funded ratio. As a result of the 2018 Pension Bill, the funded status of the Plan is expected to be 100% or greater within its amortization period.

+ The Plan's funded ratio on a market value basis, which does not involve any smoothing factor, also declined modestly from 64.07 percent in the prior year to 63.87 percent as of June 30, 2018. The market value funded ratio change is attributable to similar factors described in the immediately preceding paragraph.

+ The fiduciary net position of the Plan, which measures the amount of funds available to pay current and future pension benefits, increased by $38.3 million during the fiscal year to $1,070.6 million. This improvement was principally due to investment performance exceeding the Fund's internal long-term expected rate of return in fiscal year 2018.

System Overview

The SPTRFA is a nonprofit organization formed in 1909, incorporated under Minn. Stat. ch. 317A. Under the oversight of a ten-member Board of Trustees, SPTRFA staff manages two tax-qualified, defined benefit pension programs, a *Basic Plan* and a *Coordinated Plan*. The plans cover licensed personnel, the majority of whom are employed by Independent School District No. 625 ("SPPS"), the central administrative body for public schools within the City of St. Paul.

Basic Plan members do not participate in Social Security through their employment with SPPS. The Coordinated Plan, commenced in 1978, provides retirement benefits for members who simultaneously participate in Social Security.

Under State law, annual payroll contributions to the Fund are a direct operating obligation of the school district and members. While SPTRFA provides an employment-based benefit, the terms are not collectively negotiated, are not administered through SPPS, and SPTRFA is not a component unit of SPPS. Although the Fund's assets and liabilities were not included historically in the SPPS financial statements, recently adopted Governmental Accounting Standards Board (GASB) statements require SPPS to reflect their portion of the Fund's net pension liabilities beginning with their 2015 financial statements. Notwithstanding this reporting requirement, SPPS remains liable only for its statutorily-mandated contributions and not the Fund's net pension liabilities.

Overview of the Financial Statements

The financial section of this report consists of four parts: (1) the Independent Auditor's Report; (2) the Management's Discussion and Analysis (this section); (3) the Basic Financial Statements, which include the Statement of Fiduciary Net Position, the Statement of Changes in Fiduciary Net Position, and their accompanying notes; and (4) the Required Supplementary Information, which consists of various schedules and accompanying notes. After the financial section is the Other Pension Information Section, which consists of additional schedules and accompanying notes as prescribed by GASB Statement 67.

1. Basic Financial Statements

a) The Statement of Fiduciary Net Position presents information about assets and liabilities, the difference being the net position restricted for pensions. The level of net position reflects the resources available to pay member benefits when due. Over time, increases and decreases in this metric assist in measuring SPTRFA's financial condition.

b) The Statement of Changes in Fiduciary Net Position presents the results of Fund operations during the year and the additions or deductions from plan net position. It provides more detail to support the net change that has occurred to the prior year's net position value on the Statement of Fiduciary Net Position.

c) The Notes to the Financial Statements provide additional information essential to gain a full understanding of SPTRFA's accounting policies, benefit plans, deposits and investments, securities lending, contributions, risk management, funded status/progress, and finally, a narrative description of the actuarial measurement process.

2. Required Supplementary Information

a) The Required Supplementary Information schedules provide data about employer and non-employer contributing obligations for the most recent fiscal year. These schedules begin with fiscal year 2014 data and will develop (prospectively) into tables containing results for the most recent ten fiscal years:

- Schedule of Changes in Net Pension Liability and Related Ratios
- Schedule of Employer and Non-Employer Contributions
- Schedule of Investment Returns

b) The Notes to the Required Supplementary Information provide actuarial assumptions and changes to significant plan provisions and actuarial methods/assumptions.

3. Other Pension Information

The Other Pension Information Section provides financial data, including net pension liability, deferred outflows and inflows of resources, and pension income or expenses for each contributing entity. The participating employer units are required to report this information on their financial statements.

Financial Highlights from the Basic Financial Statements

As shown in the following table, SPTRFA's total assets for fiscal year 2018 were $1,073.0 million and were generally comprised of cash, receivables, investments, and securities lending collateral. The lending collateral represents cash on deposit to cover the value of securities loaned to brokerage firms for which they pay a fee to the Fund's custodian. These broker/dealer firms are obligated to return such securities at a future point in time. The Fund and custodian share the lending proceeds. This strategy, commonly employed by institutions, provides the Fund with an important source of additional income. During fiscal year 2018, the loaned securities of the Fund generated $1,013,430 of revenue. Costs of the program are netted against this revenue when reported in the Changes in Fiduciary Net Position for reported net securities lending income of $151,708. Revenue from this program typically covers the Plan's annual cost of custodial bank services. At the close of the year, the total market value of lendable securities in the portfolio stood at approximately $271.1 million. During the course of the fiscal year, approximately $48 - $98 million of eligible securities were on loan at any one time. As a risk control measure, the SPTRFA Board of Trustees affirmatively limits the amount of the Fund's securities that can be on loan at any given time to no more than 35 percent of Fund assets.

Fiduciary Net Position (at Market)
(in Thousands of Dollars)

	June 30 2018	June 30 2017
Assets		
Cash	$ 4,984	$ 13,104
Receivables	2,731	3,236
Investments at fair value	1,064,044	1,018,308
Securities lending collateral	1,302	1,861
Capital assets, less depreciation	35	53
Total Assets	$ 1,073,096	$ 1,036,562
Liabilities		
Accounts payable	$ 719	$ 715
Security purchases payable	503	1,737
Securities lending collateral	1,302	1,861
Total Liabilities	$ 2,524	$ 4,313
Net Position Restricted for Pensions	$ 1,070,572	$ 1,032,249

The following table, Changes in Fiduciary Net Position, lists additions and deductions to net position, and reflects a $38.3 million increase in the Fund's net position.

The main Fund outflows were annuity benefit payments and, to a lesser extent, payments to members who left the System and opted to receive a refund of their prior contributions, with statutory interest. These payments together totaled $116.1 million. The main source of inflows included total contributions of $59.3 million (which included employee, employer, and state supplemental contributions) and investment returns of $95.9 million. While investment returns provide a meaningful source of benefit funding over the long-term, it is critical to ensure that appropriate employee and employer contribution levels are maintained.

Total benefit payments (which includes annuity and refund payments) increased $2.4 million, from $113.7 million for fiscal year 2017 to $116.1 million for fiscal year 2018. Total contributions increased by $0.8 million, from $58.5 million in fiscal year 2017 to $59.3 million in fiscal year 2018. Administrative costs decreased from 8/10ths to 7/10ths of one percent.

Changes in Fiduciary Net Position (at Market)
(in Thousands of Dollars)

	Year Ended June 30	
	2018	2017
Additions		
Employer and employee contributions	$ 48,656	$ 47,831
State of Minnesota amortization aids	10,665	10,665
Investment activity, less management fees	95,734	128,516
Net securities lending income	152	203
Total Additions	$ 155,207	$ 187,215
Deductions		
Benefits, withdrawals, and refunds	$ 116,098	$ 113,744
Administrative expenses	786	888
Total Deductions	$ 116,884	$ 114,632
Net Increase (Decrease)	$ 38,323	$ 72,583
Net Position in Trust for Benefits - Beginning of the Year	1,032,249	959,666
Net Position in Trust for Benefits - End of the Year	$ 1,070,572	$ 1,032,249

Investment Performance

The Defined Benefit Plan administered by SPTRFA accumulates assets in advance of benefit obligations, covering those obligations primarily through contributions and prudent investment growth. The level of supportable benefits and long-term financial health of the Fund depend on the efficient and prudent investment of contributions from members, our employers, and certain funds received from the State.

There are cyclical economic, market-driven, and tactical risks associated with investing plan assets in the capital markets. SPTRFA is a conservative, long-term investor, seeking attractive risk-adjusted returns over a full market cycle, with an emphasis on appropriate diversification and long-term capital preservation. The following chart reflects the Fund's current asset allocation model.

Asset Class	Target Allocation
Domestic Equity	35%
International Equity	20%
Fixed Income	20%
Real Assets	11%
Private Equity & Alternatives	9%
Opportunistic	5%
TOTAL	**100%**

The Plan's long-term, internal return target is 8 percent. As a result of the 2018 Omnibus Pension Bill, the internal return target for fiscal years after 2018 will be 7.5%.

Investment returns will vary over time and return targets may or may not be achieved in any given year, particularly in periods of market turmoil. Maintaining a focus on longer-term time periods is critical, as these are the relevant time periods in which pension systems operate for their beneficiaries.

During the past fiscal year, the Fund's return was 9.75 percent (net of fees), exceeding its internal long-term return target of 8 percent and its 2018 Target Index return of 9.20 percent. There were significant areas of strength throughout the portfolio, with Public and Private Equity holdings dominating the overall return at 13.25 and 13.62 percent, respectively. Also noteworthy was the relative outperformance of the Fixed Income portfolio, with a 3.34 percent return in a year where the relevant fixed income indices were negative.

Actuarial and Market Valuation Summary

The actuarial valuation analysis (which attempts to mitigate the impact of market volatility by smoothing results over a five-year period) provides another important element in understanding the long-term health of the Plan. The table below provides metrics commonly used to assess the ability of the Fund to meet its obligations. A table reflecting results on a market value basis, which does not reflect any actuarial smoothing of results, is provided for comparative purposes as well.

Below are summary comparative statistics from the July 1, 2018, valuation:

Summary of Actuarial Valuation Results

	Plan Year Beginning July 1	
	2017	2018
Covered payroll	$ 264,342,000	$ 263,122,000
Statutory contributions (ch. 354A)	21.64%	24.23%
Required (ch. 356)	22.16%	21.54%
Sufficiency/(Deficiency)	**(0.52)%**	**2.69%**
Market value of assets	1,032,249,000	1,070,572,000
Actuarial value of assets	1,038,467,000	1,067,675,000
Actuarial accrued liability	1,611,208,000	1,676,193,000
Unfunded liability	**572,741,000**	**608,518,000**
Funding ratio	**64.45%**	**63.70%**

Summary of Market Value Results

	Plan Year Beginning July 1	
	2017	2018
Covered payroll	$ 264,342,000	$ 263,122,000
Statutory contribution (ch. 354A)	21.64%	24.23%
Required (ch. 356)	22.30%	21.48%
Sufficiency/(Deficiency)	**(0.66)%**	**2.75%**
Market value of assets	1,032,249,000	1,070,572,000
Actuarial value of assets	1,038,467,000	1,067,675,000
Actuarial accrued liability	1,611,208,000	1,676,193,000
Unfunded liability (market value basis)	**579,000,000**	**605,621,000**
Funded ratio (market value basis)	**64.07%**	**63.87%**

The Fund continues to show incremental improvements, even while adopting the more conservative underlying assumptions provided for in the 2018 Pension Bill, such as reduced investment return and payroll growth assumptions as well as increased member longevity factors. The short-term negative impact of these changes is reflected in the year-over-year increase of accrued liabilities and modest funded ratio decline, while the long-term positive impact is reflected in the meaningful improvements to the Plan's statutory contribution rate and contribution sufficiency.

Consistent and adequate employer and employee contributions are critically important to the long-term health of the Plan. The amount of contributions received in any given year is a function of both the applicable statutory contribution rates in effect and the total amount of covered payroll that is subject to those rates. While covered payroll decreased by 0.46 percent to $263.1 million, previously-authorized contribution rate increases generated a 1.90 percent increase in total contributions in fiscal year 2018. The 2018 Pension Bill authorized contribution rate increases, which will be phased-in over six years, beginning July 1, 2018.

In fiscal year 2018, the Fund reached a 2.69 percent contribution sufficiency, up from the prior year's deficiency of 0.52 percent on an actuarial basis. On a market value of assets basis, statutory contributions reached a 2.75 percent sufficiency, an improvement over the 0.66 percent deficiency in the prior year.

Notwithstanding the positive trend in total contributions received, events that potentially impact the level of contributions must be monitored closely. Legislation passed in fiscal year 2018 provided contributions that are intended to overcome the combined effects of historic underfunding, as well as the assumption changes made during the 2018 legislative session. The SPTRFA continues to closely monitor changes in the number and covered payroll for active employees, which may result from various employer-based cost savings initiatives, early retirement incentives, and replacing higher salaried senior teachers with more junior professionals, can translate over time into lower overall contributions. This could compromise the fiscal health of the Fund and place a greater burden on the investment portfolio to generate realized gains to pay member benefits.

BASIC FINANCIAL STATEMENTS

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ST. PAUL TEACHERS' RETIREMENT FUND ASSOCIATION
ST. PAUL, MINNESOTA

EXHIBIT 1

STATEMENT OF FIDUCIARY NET POSITION
JUNE 30, 2018

<u>**Assets**</u>		
Cash	**$**	**4,984,131**
Receivables		
Employer contributions	$	457,765
Employee contributions		286,660
Pensions		30,998
State contributions		837,610
Real estate income		85,260
Commission recapture		1,968
Interest		67,163
Dividends		414,714
Sales of securities		548,757
Total receivables	**$**	**2,730,895**
Investments, at fair value		
U.S. government securities	$	38,486,392
Corporate bonds		55,494,695
Municipal bonds		408,239
Foreign issue bonds		365,421
Corporate stocks		170,376,180
Limited partnerships		
Private equity		47,480,159
Alternative		37,082,635
Real estate		84,609,213
Opportunistic		28,338,497
Mutual funds		
Global equities		66,842,643
Commingled investment funds		
Fixed income		67,471,118
Domestic equity		290,956,324
Global equities		135,169,886
Cash and cash equivalents		
Money market funds		22,121,213
Commercial paper		18,841,052
Total investments, at fair value	**$**	**1,064,043,667**
Invested securities lending collateral	**$**	**1,302,060**
Furniture and fixtures (at cost, less accumulated depreciation of $411,575)	**$**	**34,839**
Total Assets	**$**	**1,073,095,592**

The notes to the financial statements are an integral part of this statement.

ST. PAUL TEACHERS' RETIREMENT FUND ASSOCIATION
ST. PAUL, MINNESOTA

EXHIBIT 1
(Continued)

STATEMENT OF FIDUCIARY NET POSITION
JUNE 30, 2018

Liabilities		
Accounts payable	$	718,891
Security purchases payable		502,652
Securities lending collateral		1,302,060
Total Liabilities	**$**	**2,523,603**
Net Position Restricted for Pensions	**$**	**1,070,571,989**

The notes to the financial statements are an integral part of this statement.

ST. PAUL TEACHERS' RETIREMENT FUND ASSOCIATION
ST. PAUL, MINNESOTA

EXHIBIT 2

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
FOR THE YEAR ENDED JUNE 30, 2018

Additions		
Contributions		
Employer	$	28,544,236
Members		20,111,939
Other sources		
State of Minnesota		10,664,610
Total contributions	**$**	**59,320,785**
Investment income (loss)		
From investing activity		
Net appreciation (depreciation) in fair value of investments	$	88,130,067
Interest		4,014,198
Dividends		4,073,775
Other		3,010,503
Total investing activity income (loss)	**$**	**99,228,543**
Investing activity expense		
External	$	(3,109,850)
Internal		(384,582)
Total investing activity expense	**$**	**(3,494,432)**
Net income (loss) from investing activity	**$**	**95,734,111**
From securities lending activity		
Securities lending income	**$**	**1,013,430**
Securities lending expense		
Borrower rebates	$	(797,436)
Management fees		(64,286)
Total securities lending expense	**$**	**(861,722)**
Net income (loss) from securities lending activity	**$**	**151,708**
Net investment income (loss)	**$**	**95,885,819**
Other income	**$**	**125**
Total Additions	**$**	**155,206,729**

The notes to the financial statements are an integral part of this statement.

ST. PAUL TEACHERS' RETIREMENT FUND ASSOCIATION
ST. PAUL, MINNESOTA

EXHIBIT 2
(Continued)

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
FOR THE YEAR ENDED JUNE 30, 2018

Deductions		
Benefits to participants		
Retirement	$	103,244,413
Disability		488,687
Survivor		11,545,660
Dependent children		19,326
Withdrawals and refunds		800,367
Total benefits, withdrawals, and refunds	**$**	**116,098,453**
Administrative expenses		
Staff compensation	$	416,352
Professional services		227,340
Office lease and maintenance		69,924
Communication-related expenses		22,076
Other expenses		49,813
Total administrative expenses	**$**	**785,505**
Total Deductions	**$**	**116,883,958**
Net Increase (Decrease)	**$**	**38,322,771**
Net Position Restricted for Pensions - Beginning of Year		**1,032,249,218**
Net Position Restricted for Pensions - End of Year	**$**	**1,070,571,989**

The notes to the financial statements are an integral part of this statement.

1. Plan Description

A. Organization

Plan Administration

The St. Paul Teachers' Retirement Fund Association (SPTRFA or the Association) is the administrator of a multi-employer, cost-sharing, defined benefit plan pension fund (the Fund), with two benefit structures known as the Basic Plan and the Coordinated Plan. Originally established in 1909, the Association is a non-profit corporation organized pursuant to the provisions of Minn. Stat. ch. 317A and governed by Minn. Stat. chs. 354A, 356, and 356A, as well as the Association's bylaws.

Governance

Management of the SPTRFA is vested in a ten-member Board of Trustees (the Board). Nine trustees are elected by and from the Association's membership and serve rotating three-year terms. The Board of Independent School District Number 625, St. Paul Public Schools (SPPS), annually appoints the tenth trustee, who serves as an ex-officio member of the Board.

B. Participating Members and Employers

The SPTRFA membership consists of licensed teachers employed by SPPS, certain licensed teachers employed by St. Paul College (SPC), certain licensed teachers employed by charter schools within the City of St. Paul, and the SPTRFA staff.

Figure 1. Plan Membership as of June 30, 2018

Retirees and beneficiaries currently receiving benefits	3,914
Terminated employees entitled to but not yet receiving benefits	2,031
Terminated, non-vested employees	3,014
Current active plan members (including members on leave)	3,577
Total Membership	12,536

1. Plan Description

B. Participating Members and Employers (Continued)

Currently, SPPS and SPC are the two active participating employers who contribute to the Fund. In addition, the State of Minnesota makes statutorily required payments to the Fund and is, therefore, classified as a non-employer contributing entity.

Until its merger into the Minnesota State Colleges and Universities (MnSCU) system on July 1, 1995, all SPC teachers were contributing members of the Fund. As part of the merger process, the SPTRFA-covered SPC teachers were given the option to remain active members of the Fund or, if choosing other retirement coverage, converting to deferred status with the SPTRFA.

Until July 1, 2002, teachers employed by charter schools within the City of St. Paul were contributing members of the SPTRFA, after which time, all Minnesota charter school teachers converted to Minnesota Teachers' Retirement Association membership for future coverage. Contributions paid and service credits accrued with respect to charter schools prior to this transition remain with the SPTRFA. Presently in deferred status with the SPTRFA, these individuals may collect a benefit based on eligibility at retirement.

C. Description of the Plans

The following brief description of the plans is provided for general information purposes only. More complete information can be found in the specific plan agreements. The SPTRFA's defined benefit plans are tax qualified under Section 401(a) of the Internal Revenue Code. Additionally, the Plans are not subject to the Employee Retirement Income Security Act of 1974 (ERISA).

The Association administers two defined benefit plan structures:

Basic Plan

Members covered prior to July 1, 1978, are participants in the SPTRFA's Basic Plan. These members do not participate in Social Security through their employment. As a result, members in the Basic Plan are subject to higher contribution rates and receive higher benefit payments.

1. Plan Description

C. Description of the Plans (Continued)

Coordinated Plan

The Coordinated Plan provides retirement benefits to members who simultaneously participate in Social Security. Effective July 1, 1978, new members were covered by the Coordinated Plan, with lower contributions and benefits designed to supplement contributions to, and benefits from, the Social Security system.

D. Benefits Provisions

Pension Benefits Overview

The SPTRFA provides retirement and disability benefits to those members satisfying length-of-service and minimum age requirements. Depending on plan coverage, survivor benefits and family benefits may also be available.

The benefit paid to eligible members is formula based. The formula components are final average salary, earned service credit, applicable rate, and if retiring prior to their normal retirement age, a reduction for early retirement.

Service credit is determined by the number of days worked each fiscal year (July 1 through the following June 30).

Basic Plan

Basic Plan members must have five years of service credit to be vested for a future lifetime pension benefit with eligibility for a reduced benefit as early as age 55. The benefit that a member is entitled to receive is the greater of the pension amount computed using the applicable Tier I or Tier II formulas.

Under the Basic Plan, final average salary includes the highest five years of salary earned during the last ten years employed. The Tier I formula rate is 2.0 percent of the final average salary for each year of service credit. The benefit is subject to a maximum of 40 years, with a 0.25 percent reduction for each month the member draws their benefit prior to their normal retirement age of 65. If the member has 25 service credit years, the reduction is applied only if the member is less than 60 years old. No reduction is applied if age plus service credit years total at least 90.

1. Plan Description

D. Benefits Provisions

Basic Plan (Continued)

The Tier II formula is 2.5 percent of the final average salary for each year of service credit. This benefit is subject to a maximum of 40 years, reduced for each month the member is under the normal retirement age of 65, using statutory early retirement reduction tables.

Coordinated Plan

Coordinated Plan members must have three years of service credit to be vested for a future lifetime pension benefit and are eligible to retire with a reduced benefit at age 55, or earlier with 30 years of service credit.

Under the Coordinated Plan, final average salary includes the average of the highest five successive years of salary earned during employment.

Members hired before July 1, 1989, are eligible for the greater of Tier I or Tier II benefits. Members hired on or after July 1, 1989, are eligible solely for Tier II benefits.

The Tier I formula multiplies the final average salary by the retirement service credit years earned by the following rates:

For Service Rendered	Prior to July 1, 2015	On or After July 1, 2015
First ten years	1.20 percent	1.40 percent
Subsequent years	1.70 percent	1.90 percent

A reduction of 0.25 percent is applied for each month the member draws their benefit prior to age 65, or prior to age 62 with 30 service years. No reduction applies if the age plus years of service total at least 90.

The Tier II formula multiplies the final average salary by the retirement service credit years earned by 1.70 percent for service rendered before July 1, 2015, and 1.90 percent for each year of service rendered after June 30, 2015. This benefit is reduced for each month the member draws their benefit prior to their normal retirement ages of 65 or 66, based on statutory early retirement tables.

1. Plan Description

   D. Benefits Provisions (Continued)

      Disability

      Active members who become totally and permanently disabled and satisfy required length-of-service requirements are entitled to receive monthly disability benefits as calculated under each Plan.

      Refund of Contributions

      Non-vested members who terminate employment may only receive a refund or a rollover of their contributions, with statutory accumulated interest.

      Post-Retirement Adjustment

      Post-retirement adjustments are determined annually, under Minnesota statutes, which may be amended from time to time. In fiscal year 2018, the SPTRFA provided post-retirement adjustments determined by the SPTRFA's funding ratio according to the following table.

Accrued Liability Funding Ratio (AVA) for two consecutive years	Full COLA Rate (%)
Less than 80 percent	1.0
Greater than or equal to 80 percent, but less than 90 percent	2.0
Greater than or equal to 90 percent	2.5

2. Summary of Significant Accounting Policies

   A. Basis of Accounting and Presentation

      The accompanying financial statements were prepared and presented to conform with the accounting principles generally accepted in the United States of America (GAAP) that apply to governmental accounting for fiduciary funds, including those set forth by the Governmental Accounting Standards Board (GASB).

      The SPTRFA's financial statements are prepared using the full accrual basis of accounting. Under this method, and in accordance with Minn. Stat. ch. 354A.12, contributions are recognized as revenues when due, benefits and refunds are recognized when due and payable, and expenses are recorded when corresponding liabilities are incurred, regardless of the timing of cash flow.

2. Summary of Significant Accounting Policies (Continued)

B. Investment Policies and Valuation Methodology

Investment Policy

The Association is authorized to invest the assets of the Fund under Minn. Stat. ch. 356A and Association bylaws. The SPTRFA investments are governed by Minn. Stat. § 356A.06, subds. 6 and 7, as well as the Association's bylaws and investment policy. Under these rules, permissible investments include, but are not limited to, government and corporate bonds, non-U.S. and domestic common stock, real property, private equity investments, derivatives, options, and notes.

The SPTRFA Board of Trustees is responsible for the adoption, implementation, and monitoring of the investment policy. Pursuant to the Association's Investment Policy, the Fund seeks to achieve the preservation and long-term appreciation of the Fund's assets through appropriate diversification and risk management.

Figure 2. SPTRFA's Target Asset Allocation

Asset Class	Target Allocation
Domestic Equity	35%
International Equity	20
Fixed Income	20
Real Assets	11
Private Equity and Alternatives	9
Opportunistic	5
Total	100%

Method Used to Value Investments

Investments for the SPTRFA are stated at fair value. The SPTRFA categorizes the fair value measurements of its investments in accordance with generally accepted accounting principles. 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. A fair value hierarchy is established for

2. Summary of Significant Accounting Policies

B. Investment Policies and Valuation Methodology

Method Used to Value Investments (Continued)

investments. The hierarchy is based on valuation inputs, categorized at three levels, dependent on whether the inputs to those valuations are observable or unobservable in the marketplace.

Interest income is recognized when earned on an accrual basis. Dividend income is recorded on the date that the funds are earned, and a receivable for the dividend is recorded at the time of the dividend announcement.

Rate of Return

The Association's money weighted rate of return for the year ending June 30, 2018, was 9.75 percent (net of fees). The money weighted rate of return expresses investment performance, net of investment expenses, adjusted for the actual cash flows that took place during the performance period.

3. Deposits and Investments

A. Investments

Assets and liabilities measured at fair value and inputs relative to their fair value measurements are classified and reported in one of the following categories:

- Level 1 - Investments' fair values based on prices quoted in active markets for identical assets.

- Level 2 - Investments' fair values based on observable inputs for the assets either directly or indirectly, other than those considered Level 1 inputs, which may include quoted prices for identical assets in markets that are not considered to be active, and quoted prices of similar assets in active or inactive markets.

3. Deposits and Investments

A. Investments (Continued)

- Level 3 - Investments are based on valuation methodologies including pricing models, discounted cash flow models, and similar techniques in which one or more significant inputs are unobservable. Level 3 valuations incorporate subjective judgments and consider assumptions including capitalization rates, discount rates, cash flows, and other factors that are not observable in the market.

Figure 3. SPTRFA's Investments Measured at Fair Value

	As of June 30, 2018	Fair Value Measurements Using Level 1	Level 2	Level 3
Investments by fair value level				
Equity securities				
Domestic equity	$ 170,515,662	$ 170,515,662	$ -	$ -
International equity	24,396,674	24,396,674	-	-
Total equity securities	$ 194,912,336	$ 194,912,336	$ -	$ -
Fixed income securities				
U.S. government issues	$ 38,486,392	$ 2,056,348	$ 36,430,044	$ -
Municipal issues	408,239	-	408,239	-
Corporate issues	11,857,588	-	11,857,588	-
Asset-backed securities	31,348,874	-	31,348,874	-
Mortgage-backed securities	12,288,233	-	12,288,233	-
Foreign issues	365,421	-	365,421	-
Total fixed income securities	$ 94,754,747	$ 2,056,348	$ 92,698,399	$ -
Total investments by fair value level	$ 289,667,083	$ 196,968,684	$ 92,698,399	$ -

Investments measured at the net asset value (NAV)	
Private equity	$ 55,355,894
Private real estate fund	4,725,978
Alternative investments	89,242,755
Commingled global fixed income funds	35,773,760
Commingled global equity funds	129,914,768
Commingled domestic equity funds	57,413,081
Commingled real estate funds	55,347,079
Money market funds	22,121,213
Commercial paper	18,841,052
Total investments measured at NAV	$ 468,735,580

3. Deposits and Investments

A. Investments (Continued)

Net Asset Value (NAV): The fair value of investments in entities that calculate a net asset value per share are determined using that NAV in lieu of the leveling methodology described above.

Figure 4. SPTRFA's Investments Measured at NAV

	Investments Measured at Net Asset Value (NAV)			
	As of June 30, 2018	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Investments				
Private equity				
RWI Ventures II L.P.	$ 327,692	$ N/A	N/A	N/A
North Sky Fund IV L.P.	6,530,311	2,850,000	N/A	N/A
SP/FP Private Equity Fund, L.P.	37,757,909	48,148,736	N/A	N/A
Venture Investment Associates	2,622,766	2,450,000	N/A	N/A
TCW DL LLC	7,875,735	3,799,411	N/A	N/A
RWI Ventures I L.P.	241,481	N/A	N/A	N/A
Private real estate				
Dune Real Estate Partners L.P. Fund III	4,725,978	985,421	N/A	N/A
Commingled alternative investments				
Structured Alpha 500 LLC	31,697,358	N/A	Monthly	25 days
Corvex Offshore II LTD.	8,104,015	N/A	25% of capital quarterly	60 days
Entrust Special Op Fund III, LTD.	20,234,482	N/A	Quarterly	95 days
Parametric Defensive Equity Funds LLC	29,206,900	N/A	Monthly	5 days
Commingled global fixed income funds				
Brandywine Global Opportunistic	35,773,760	N/A	Daily	10 days
Commingled global equity income funds				
JPMCB Global Focus Fund	63,072,125	N/A	Daily	None
Morgan Stanley Institutional Global	66,842,643	N/A	Daily	None
Commingled domestic equity income funds				
Blackrock S&P 500 Equity Index	10,118,599	N/A	Daily	1 day
Dimensional - US Small Cap Value	47,294,482	N/A	Daily	5 days
Commingled real estate				
UBS Trumbull Property Fund	38,203,514	N/A	Quarterly, subject to available capital liquidity	60 days
UBS (US) Trumbull Property G & I	17,143,565	N/A	Quarterly, subject to available capital liquidity	60 days
Money market funds	22,121,213	N/A	None	None
Commercial Paper	18,841,052	N/A	No restriction	No restriction
Total Investments Measured at NAV	$ 468,735,580			

N/A: Funds are not eligible for redemption. Distributions are received as underlying investments are liquidated.

3. Deposits and Investments

A. Investments (Continued)

The categorization of investments within the hierarchy in Figure 3 is based solely upon the objectivity of the inputs used in the measurement of fair value of the investments and does not reflect the level of risk associated with the investments.

Investments classified in Level 1 of the fair value hierarchy are valued from predetermined external pricing vendors or primary dealers who source quoted prices in active markets which are readily attainable exit values of these securities. Investments classified in Level 2 are subject to alternative pricing sources, such as matrix pricing, and include a combination of price sources, descriptive data, and pricing models based on attributes such as spread data, sector, quality, duration, and prepayment characteristics. Where applicable, investment instruments classified as Level 2 are also valued using market approaches that consider benchmark interest rates or foreign exchange rates. The values are supplied by advisors or general partners who hold those or similar assets in investment vehicles they oversee. These pricing sources may or may not be indicative of realizable exit value attainable for the assets.

External Investment Pools

The Fund holds $305,641,004 with the Minnesota State Board of Investment (MNSBI), an external investment pool. Comprised of international and domestic equity, the portfolios are identified as SBI International Equity ($72,097,761) and SBI Domestic Equity ($233,543,243). The Fund invests in this pool due to its cost-efficient fees for services provided. The fair value of the investment is the fair value per share of the underlying portfolio. Redemptions are available with a five-day notice.

Description of Significant Investment Strategies Using NAV

Private equity consists of a broadly diversified private equity portfolio of investments that provide diversification by industry type, size, stage of corporate development, and location, through limited partnership structures. The fair values of the investments of this type have been determined using the NAV per share of the Plan's ownership interest in partners' capital. These funds are not eligible for redemption. Distributions are received as underlying investments within the funds are liquidated, which can occur over a span of five to ten years.

3. Deposits and Investments

A. Investments

Description of Significant Investment Strategies Using NAV (Continued)

Private real estate consists of one investment in a limited partnership that invests primarily in U.S. commercial real estate using a private equity style capital call structure. The fair value of investments is determined using the NAV per share of the Plan's ownership interest in partners' capital. These funds are not eligible for redemption. Distributions are received as underlying investments within the funds are liquidated, which can occur over a span of five to ten years.

Alternative investments include a variety of investment strategies that are intended to provide attractive risk-adjusted returns and portfolio diversification. These investments are reflected in four commingled investment vehicles and include equity co-investments, special situations, mergers, portable alpha, and hedged equity structures. The fair value of investments is determined using the NAV per share of the Plan's ownership interest in partners' capital.

Commingled global fixed income consists of one commingled investment vehicle that invests primarily in publicly traded global fixed income securities. The investment is valued at NAV of units held at the end of the period based upon the NAV per share of the underlying investments.

Commingled global equity consists of two commingled investment vehicles that primarily invest in publicly traded global equity securities. The funds are valued at the net asset value of units held at the end of the period based upon the NAV per share of underlying investments.

Commingled domestic equity consists of two commingled investment vehicles that invest primarily in publicly traded domestic equity securities. The funds are valued at the net asset value of units held at the end of the period based upon the NAV per share of underlying investments.

Commingled real estate consists of two commingled investment vehicles that invest primarily in U.S. commercial real estate, one focused on a growth and income strategy and the other a core strategy. The fair value of investments is determined using the NAV per share of the Plan's ownership interest in partners' capital.

3. Deposits and Investments

A. Investments

Description of Significant Investment Strategies Using NAV (Continued)

Short-term investment funds include cash equivalents, bank notes, corporate notes, government bills, money market funds, and various safe short-term debt instruments. These types of funds are typically used to provide a temporary investment prior to an expenditure or an allocation to another investment opportunity.

It is the Association's policy to optimize total return on the Fund's portfolio through a policy of diversified investments to achieve maximum rates of return. The Association invests in these types of securities in order to achieve this policy.

B. Securities Lending

The Association participates in a securities lending program. The Association's Custodian, U.S. Bank, is the Association's securities lending agent. In accordance with GASB Statement No. 28, *Accounting and Financial Reporting for Securities Lending Transactions*, investment collateral under the program is listed as both an asset and a liability. On June 30, 2018, 18.0 percent of the Fund's securities available for lending were on loan.

The Association is permitted to enter into securities lending transactions under Minn. Stat. § 356A.06, subd. 7a, provided collateral with a market value of at least 100 percent of the value of the loaned securities is received at the time of the loan agreement. The Association's agreement with U.S. Bank requires all securities lending transactions to be collateralized with 102 percent of the market value of the loaned securities at loan inception, with a simultaneous agreement to return the collateral for the same securities in the future. Requiring collateral in excess of the value of loaned securities protects the Association from loss in the event of failure by the borrowing party to deliver the loaned securities. The Association's contract with U.S. Bank also specifies that U.S. Bank will indemnify the Association for any "fails," or loss of securities by failure of borrowers to return securities.

Such loans are permitted to be made solely to pre-approved borrowers. Qualifications of borrowers and the fiscal status of such entities are monitored by the securities lending agent, U.S. Bank, on a continuing basis. Loaned investments are marked to market daily.

3. Deposits and Investments

B. Securities Lending (Continued)

If the collateral provided by the borrower falls below 100 percent of the market value of the loaned investment, the borrower is required to provide additional collateral to bring the collateral value to 102 percent. Collateral may be provided in securities or cash.

On June 30, 2018, the market value of collateral was 102.66 percent of the market value of loaned securities.

As of June 30, 2018, the fair value of cash collateral received was $1,302,060, which is included in the Statement of Fiduciary Net Position both as an asset and offsetting liability. The cash collateral, with a weighted average maturity of 12 days, was invested entirely in the Mount Vernon Liquid Assets Portfolio. The Association has no credit risk exposure to borrowers because the amounts the Association owes borrowers exceeds amounts borrowers owe the Association. All securities loans may be terminated on demand by either the Association or the borrower.

As an additional step to mitigate risk, the Board of Trustees affirmatively limits the amount of the Fund's securities that may be on loan at any given time to 35 percent of Fund assets. As of June 30, 2018, 4.64 percent of the Fund's assets were on loan.

C. Custodial Credit Risk

Custodial credit risk for cash deposits and investments is generally the risk that, in the event of a bank or custodial failure, the SPTRFA would not be able to recover the value of its investments or collateral securities. Generally, all marketable securities purchased by the Association are held by a third-party custodian. The Association is also authorized by Minn. Stat. § 356A.06 to deposit its cash in financial institutions designated by the Board of Trustees. Cash on deposit at U.S. Bank is swept to a commercial paper account nightly. Commercial paper is a short-term unsecured promissory note issued by a company or a corporation. Under Minn. Stat. § 356A.06, commercial paper must be issued by a United States corporation or its Canadian subsidiary and rated in the highest two quality categories by a nationally recognized rating agency.

3. Deposits and Investments (Continued)

D. Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will adversely affect the fair market value of an investment. The Association participates in fixed income markets, which are traditionally viewed as having the highest sensitivity to interest rate movements, through the external managers listed below.

Figure 5. Interest Rate Risk

Fixed Income Mandate	Account	Market Value
Active Global Opportunistic Fixed Income Fund	Brandywine	$ 35,773,760
Active Core Plus	Guggenheim	93,808,119

In accordance with its investment policy, the Association has a 20 percent target allocation to fixed income assets. Each external manager hired by the Association monitors and manages the interest rate risk associated with its underlying portfolio. A key component of interest rate sensitivity is a debt instrument's time to maturity, or duration. The following table shows weighted overall durations of each investment account and the associated benchmark as of June 30, 2018.

Figure 6. Duration Risk

Account	Average Duration in Years	Average Duration of Benchmark
Brandywine	3.50	7.83
Guggenheim	4.20	6.01
U.S. Bank – Securities Lending Cash Collateral	0.03	None
U.S. Bank – Commerical Paper Sweep Account	0.00	None

E. Credit Risk

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations to the holder of the investments. The Fund's credit risk exposure is statutorily restricted, under Minn. Stat. § 356A.06, subd. 7, to specific credit rating requirements and concentration limits. It is the Association's policy to follow this statute with regards to credit risk.

3. Deposits and Investments

E. Credit Risk (Continued)

The Association invests in debt securities through two investment managers and through its custodian, U.S. Bank. For the investment manager, Brandywine, amounts totaling $35,773,760 are invested in the Brandywine Global Opportunistic Fixed Income Fund, which is an unrated pool. The U.S. Bank commercial paper of $10,844,177 has a Standard and Poor's rating of A-1+, satisfying the statutory rating requirements. Of the $93,808,119 invested by the Guggenheim investment manager, the credit risk for the securities required to be presented, is broken out in the following table:

Figure 7. Credit Risk

Guggenheim Investment Manager Debt Security Types	Credit Quality Ratings Standard and Poor's or Equivalent	Market Value	Percent of Total Investments (%)
Federal National Mortgage Association	AA	**$ 9,063,136**	**0.85**
Federal Home Loan Mortgage Corporation	AAA	1,006,300	
Federal Home Loan Mortgage Corporation	AA	7,057,575	
Federal Home Loan Mortgage Corporation	A	991,820	
Total Federal Home Loan Mortgage Corporaton		**9,055,695**	**0.85**
Municipal bonds	AA	**408,239**	**0.04**
Foreign issues	BBB	**365,421**	**0.03**
Corporate bonds	BBB	1,351,211	
Corporate bonds	B	100,930	
Corporate bonds	N/R*	23	
Total Corporate bonds		**1,452,164**	**0.14**
Asset backed securities	AAA	19,124,062	
Asset backed securities	AA	7,276,371	
Asset backed securities	A	20,708,612	
Asset backed securities	BBB	4,680,308	
Asset backed securities	B	838,710	
Asset backed securities	N/R*	1,414,468	
Total Asset backed securities		**54,042,531**	**5.08**
Commercial paper	A-2	**7,996,875**	**0.75**
Total Guggenheim Debt Securities		**$ 82,384,061**	**7.74**

In the absence of a Standard and Poor's credit quality rating, other nationally recognized rating agencies were used. For reporting clarity, all ratings are displayed using comparable Standard and Poor's ratings.

*N/R indicates securities were not rated by a nationally recognized rating agency.

3. Deposits and Investments (Continued)

F. Derivative Investments

As of June 30, 2018, the Association had futures contracts through its cash overlay program with Parametric.

As provided by Minn. Stat. § 356A.06, any agreement for put and call options and futures contracts may be entered into only with a fully offsetting amount of cash or securities. Upon entering into a futures contract, each party is required to deposit with the broker an amount, referred to as the initial margin, equal to a percentage of the purchase price indicated by the futures contract. In lieu of a cash initial margin, certain investments are held for the broker as collateral.

Subsequent deposits, referred to as variation margins, are received or paid each day by each party equal to the daily fluctuations in the fair value of the contract. These amounts are recorded by each party as unrealized gains or losses. When a contract is closed, each party records a realized gain or loss equal to the difference between the value of the contract at the time it was opened and the value at the time it was closed.

Futures contracts involve, to varying degrees, credit and market risks. The Association may enter into contracts only on exchanges or boards of trade where the exchange or board of trade acts as the counterparty to the transactions. Thus, credit risk on such transactions is limited to the failure of the exchange or board of trade. Losses in value may arise from changes in the value of the underlying instruments or if there is an illiquid secondary market for the contracts.

The futures contracts held by the Association on June 30, 2018, had maturity dates from June 15 to June 29, 2018. As of June 30, 2018, the Fund's cash overlay account associated with the futures contracts had no money market funds. The futures contracts' change in fair value during the reporting period was ($72,449), which is not reported as an asset or liability because, upon maturity of the contract, an exchange does not take place, but instead the gain or loss is settled in cash.

3. Deposits and Investments

F. Derivative Investments (Continued)

The following are risks associated generally with futures contracts, which are mitigated by the practice of the money manager settling the futures contracts each business day:

Credit Risk – Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. Losses in value may arise from changes in the value of the underlying instruments or if there is an illiquid secondary market for the contracts.

Interest Rate Risk – Interest rate risk for investments consists of assessing the potential for adverse effects on the fair value of debt securities held as a result of interest rate changes.

Foreign Currency Risk – Foreign currency risk is the risk that changes in exchange rates of foreign currencies relative to the U.S. dollar adversely affect the fair value of an investment or a deposit.

Market Risk – Market risk is the possibility that a change in market prices or currency rates will cause the value of a financial instrument to decrease or become more costly to settle.

G. Concentration Risk

Concentration risk relates to the adequacy of policy and practice in limiting the risk of loss due to insufficient diversification of holdings measured from several different aspects, such as asset class, region, sector, industry, or company size.

As specified in Minn. Stat. § 356A.06, subd. 7, equity investment holdings may not exceed 5.0 percent of any one corporation's outstanding shares. As of June 30, 2018, the Fund's largest ownership of any one corporation's outstanding shares was 0.11 percent.

Association policy also limits exposure to any one company's securities at 1.5 percent of the total fund. As of June 30, 2018, the largest aggregate total holding is well under this requirement at 0.20 percent.

3. Deposits and Investments

G. Concentration Risk (Continued)

Association policy further provides that no more than 15.00 percent of the Fund's assets may be invested in any one industry sector and that the maximum allocation to any single active investment manager is limited to no more than 15.00 percent of the total fund. As of June 30, 2018, the Fund met these requirements at 3.10 percent and 8.88 percent, respectively.

H. Foreign Currency Risk

Foreign currency risk is the risk that changes in exchange rates of foreign currencies relative to the U.S. dollar may adversely affect the fair value of an investment or a deposit.

The Fund has exposure to certain foreign currency risks through its external investment managers who invest in global equity and fixed income markets. This exposure is detailed in the following chart:

Figure 8. Foreign Currency Risk

Assets Held in Non-U.S. Securities by Currency as of June 30, 2018

Country	Currency	Value
Australia	Australian Dollar	$ 3,318,027
Brazil	Brazilian Real	695,737
Canada	Canadian Dollar	5,689,990
Chile	Chilean Peso	124,920
China	Chinese Renminbi	28,102
Colombia	Colombian Peso	49,803
Czech Republic	Czech Koruna	85,899
Denmark	Danish Krone	1,739,435
Egypt	Egyptian Pound	25,508
European Union	Euro	39,048,685
Great Britain	British Pound	31,528,823
Hong Kong	Hong Kong Dollar	5,996,737
Hungary	Hungarian Forint	138,550
India	Indian Rupee	1,073,403
Indonesia	Indonesian Rupiah	360,427
Israel	New Israeli Shekel	199,642
Japan	Japanese Yen	15,125,411
Malaysia	Malaysian Ringgit	335,731

3. Deposits and Investments

H. Foreign Currency Risk (Continued)

Assets Held in Non-U.S. Securities by Currency as of June 30, 2018

Country	Currency	Value
Mexico	Mexican Peso	390,200
New Zealand	New Zealand Dollar	115,546
Norway	Norwegian Krone	392,990
Philippines	Philippine Peso	162,375
Poland	Polish Zloty	217,819
Qatar	Qatari Riyal	33,821
Singapore	Singapore Dollar	1,419,883
South Africa	South African Rand	1,417,528
South Korea	South Korean Won	2,152,514
Sweden	Swedish Krona	2,080,056
Switzerland	Swiss Franc	4,563,623
Taiwan	New Taiwan Dollar	1,600,742
Thailand	Thailand Baht	232,980
Turkey	Turkish Lira	123,052
United Arab Emirates	UAE Dirham	40,705
Totals		$ 120,508,664

Total amount will not reconcile with the combined total for the investment manager reports. U.S. dollars of $81,503,865 are included in those reports, however, they are not included in this table because they are not relevant for foreign currency disclosure purposes.

4. Contribution Requirements

Funding and contribution provisions are established by state law and may be amended only by the State of Minnesota Legislature. Provisions regarding funding status and contribution rates are set forth in Minn. Stat. §§ 356.215 and 354A.12, respectively.

A. Funding

The SPTRFA's full funding date is June 30, 2048, established under Minn. Stat. § 356.215.

As part of the Fund's annual actuarial valuation, the sufficiency or deficiency of the statutory contribution rates toward meeting the required full funding deadline are determined, on both an actuarial and market value basis. The actuary compares the actual contribution rate to a "required" contribution rate. The required contribution rate

4. Contribution Requirements

A. Funding (Continued)

consists of: (a) normal costs based on entry age normal cost methods, (b) a supplemental contribution for amortizing any unfunded actuarial accrued liability by the required date for full funding, and (c) an allowance for administrative expenses.

At June 30, 2018, the difference between the statutory and actuarially required contributions is a sufficiency of 2.69 percent of payroll, measured on the actuarial value of assets, and a sufficiency of 2.75 percent on a market value of assets.

B. Contribution Rates

Required contribution rates for employer and employee contributions to the SPTRFA are established by Minn. Stat. § 354A.12. Contribution rates applicable for the year ending June 30, 2018, are provided in Figure 9 (expressed as a percentage of covered payroll).

Figure 9. Contribution Rates (for the fiscal year ended June 30, 2018)

	Percentage of Covered Payroll	
	Basic Plan	Coordinated Plan
Employee contribution – Minn. Stat. § 354A.12, subd. 1	10.00%	7.50%
Employer contribution – Minn. Stat. § 354A.12, subd. 2a – base	10.00	6.50
Employer contribution – Minn. Stat. § 354A.12, subd. 2a – additional	3.64	3.84

Note: Employer base and additional contributions, previously reported together, are now separated to provide additional detail.

4. Contribution Requirements

B. Contribution Rates (Continued)

These rates have been legislatively modified, with changes to be phased in over a multi-year period. See Figure 10 below for applicable rate changes.

Figure 10. Statutory Schedule of Changes to Contribution Rates

	Basic Plan			Coordinated Plan		
After June 30	Employee	Employer Base	Employer Additional	Employee	Employer Base	Employer Additional
2017	10.00%	10.000%	3.64%	7.50%	6.500%	3.84%
2018	10.00%	10.835%	3.64%	7.50%	7.335%	3.84%
2019	10.00%	11.670%	3.64%	7.50%	8.170%	3.84%
2020	10.00%	11.880%	3.64%	7.50%	8.380%	3.84%
2021	10.00%	12.090%	3.64%	7.50%	8.590%	3.84%
2022	10.25%	12.300%	3.64%	7.75%	8.800%	3.84%
2023	10.25%	12.500%	3.64%	7.75%	9.000%	3.84%

Additionally, pursuant to Minn. Stat. § 423A.02, SPPS contributed $800,000 to the Fund in fiscal year 2018. The State of Minnesota also contributed $10,664,610 to the Fund in fiscal year 2018, pursuant to Minn. Stat. §§ 354A.12 and 423A.02. These contributions are scheduled to terminate at the Fund's full funding target date (currently June 30, 2048) or when full funding is achieved, whichever occurs first.

5. Net Pension Liability

The Association's actuary performs another actuarial valuation to comply with the requirements of GASB Statement 67. The components of the net pension liability for the Fund's participating employers and the State of Minnesota (a non-employer contributing entity) as of June 30, 2018, are shown in Figure 11, as calculated by the Association's actuary, Gabriel Roeder Smith & Company.

5. Net Pension Liability (Continued)

Figure 11. Net Pension Liability

Net Pension Liability *(Dollars in Thousands)*			
(a) Total Pension Liability	(b) Plan Fiduciary Net Position	(a - b) Net Pension Liability	(b/a) Plan Fiduciary Net Position as a Percentage of the Total Pension Liability
$ 1,676,193	$ 1,070,572	$ 605,621	63.87%

A. Actuarial Valuation

The actuarial valuation of the Fund involves estimates of the reported amounts and assumptions about the probability of the occurrence of events far into the future, including anticipated member mortality and salary increases. These assumptions are derived from the Fund's periodic experience study, performed by the Association's actuary. The Fund's most recent experience study covered the period July 1, 2011, to June 30, 2016.

A summary of the actuarial assumptions used to calculate the net pension liability is shown below in Figure 12.

Figure 12. Key Methods and Assumptions Used in Valuation of Total Pension Liability

Valuation date	June 30, 2018
Actuarial cost method	Entry Age Normal
Actuarial assumptions:	
Investment Return Rate	7.50 percent per year
Salary Increases	3.00 percent to 9.00 percent; service based
Wage Inflation Rate	3.00 percent per year
Annuitant Mortality	RP-2014 Healthy Mortality Table, with white collar adjustment, set back two years for females, projected with Scale MP-2017 from 2006

B. Long-Term Expected Rate of Return

The long-term expected rate of return on pension plan investments used in the determination of the total pension liability is 7.50 percent.

5. Net Pension Liability

B. Long-Term Expected Rate of Return (Continued)

This rate was determined using a building-block method in which best-estimate ranges of expected future real rates of return are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return were adopted by the Board of Trustees after considering input from the Fund's investment consultant and actuary. Best estimates for each major asset class included in the target asset allocation as of June 30, 2018, are summarized in the following table:

Figure 13. Long-Term Expected Real Rate of Return

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return (Arithmetic)
Domestic Equity	35%	6.55%
International Equity	20	6.98
Fixed Income	20	3.45
Real Assets	11	3.90
Private Equity and Alternatives	9	7.47
Opportunistic	5	6.08
Total	100%	

For purposes of these calculations, the Association's assumed inflation rate is 2.75 percent.

C. Discount Rate

The discount rate used to measure the total pension liability was 7.50 percent. The projection of cash flows used to determine this single discount rate assumed that plan members, employer, and State of Minnesota contributions will be made in accordance with rates set by Minnesota statutes. Based on these assumptions, the SPTRFA's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members.

5. Net Pension Liability

C. Discount Rate (Continued)

As a result, the long-term expected rate of return on pension plan investments of 7.50 percent was applied to all periods of projected benefit payments to determine the total pension liability.

D. Sensitivity Analysis

GASB Statement 67 requires the disclosure of the sensitivity of the net pension liability to changes in the current discount rate. Figure 14 presents the Fund's net pension liability, calculated using the discount rate of 7.50 percent, as well as what the net pension liability would be if it were calculated using a discount rate that is 1.00 percent lower or 1.00 percent higher.

Figure 14. Net Pension Liability at Different Discount Rates

Sensitivity of Net Pension Liability to the Single Discount Rate Assumptions
(Dollars in Thousands)

1.00% Decrease 6.50%	Current Single Discount Rate Assumption 7.50%	1.00% Increase 8.50%
$ 805,112	$ 605,621	$ 440,380

6. Risk Management

The Association is exposed to various risks of loss related to torts; theft of, damage to, or destruction of assets; errors or omissions; injuries to employees; and natural disasters. To cover its liabilities, the Association purchases commercial insurance. There were no significant reductions in insurance coverage from the prior year. There were no claims filed on behalf of the Fund this year.

REQUIRED SUPPLEMENTARY INFORMATION

ST. PAUL TEACHERS' RETIREMENT FUND ASSOCIATION
ST. PAUL, MINNESOTA

EXHIBIT A-1

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS
(DOLLARS IN THOUSANDS)

Fiscal Year Ending June 30	**2018**	**2017**	**2016**	**2015**	**2014**
Total Pension Liability					
Service cost	$ 25,087	$ 24,098	$ 25,596	$ 24,998	$ 22,954
Interest on the total pension liability	125,256	123,820	124,294	123,108	118,503
Benefit changes	(74,376)	-	-	(5,677)	-
Difference between expected and actual experience	(13,445)	7,106	(42,295)	(17,133)	(16,257)
Assumption changes	118,561	(22,643)	-	-	39,642
Benefit payments	(115,298)	(112,771)	(111,167)	(108,878)	(105,742)
Refunds	(800)	(972)	(628)	(875)	(1,103)
Net change in total pension liability	**$ 64,985**	**$ 18,638**	**$ (4,200)**	**$ 15,543**	**$ 57,997**
Total Pension Liability - Beginning	**1,611,208**	**1,592,570**	**1,596,770**	**1,581,227**	**1,523,230**
Total Pension Liability - Ending (a)	**$ 1,676,193**	**$ 1,611,208**	**$ 1,592,570**	**$ 1,596,770**	**$ 1,581,227**
Plan Fiduciary Net Position					
Employer contributions	$ 28,544	$ 27,685	$ 26,563	$ 26,046	$ 24,532
Employee contributions	20,112	20,146	18,538	17,567	16,564
Non-employer contributions	10,665	10,665	10,665	10,665	10,665
Pension plan net investment income	95,886	128,719	1,475	25,757	168,176
Benefit payments	(115,298)	(112,771)	(111,167)	(108,878)	(105,742)
Refunds	(800)	(972)	(628)	(875)	(1,103)
Pension plan administrative expense	(786)	(889)	(749)	(748)	(739)
Net change in plan fiduciary net position	**$ 38,323**	**$ 72,583**	**$ (55,303)**	**$ (30,466)**	**$ 112,353**
Plan Fiduciary Net Position - Beginning	**1,032,249**	**959,666**	**1,014,969**	**1,045,435**	**933,082**
Plan Fiduciary Net Position - Ending (b)	**$ 1,070,572**	**$ 1,032,249**	**$ 959,666**	**$ 1,014,969**	**$ 1,045,435**

The notes to the required supplementary information are an integral part of this schedule.

ST. PAUL TEACHERS' RETIREMENT FUND ASSOCIATION
ST. PAUL, MINNESOTA

EXHIBIT A-1
(Continued)

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS
(DOLLARS IN THOUSANDS)

Fiscal Year Ending June 30	2018	2017	2016	2015	2014
Net Pension Liability - Ending (a) - (b)	**$ 605,621**	**$ 578,959**	**$ 632,904**	**$ 581,801**	**$ 535,792**
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	**63.87%**	**64.07%**	**60.26%**	**63.56%**	**66.12%**
Covered Employee Payroll	**$ 263,122**	**$ 264,342**	**$ 258,787**	**$ 263,844**	**$ 259,740**
Net Position Liability as a Percentage of Covered Employee Payroll	**230.17%**	**219.02%**	**244.57%**	**220.51%**	**206.28%**

**As of July 1, 2013, the COLA is assumed to increase from 1 percent to 2 percent on January 1, 2056.*
As of July 1, 2014, the COLA is assumed to increase from 1 percent to 2 percent on January 1, 2032; and from 2 percent to 3 percent on January 1, 2044.
As of July 1, 2015, the COLA is assumed to increase from 1 percent to 2 percent on January 1, 2041; and from 2 percent to 2.5 percent on January 1, 2051.
As of July 1, 2016, the COLA is assumed to increase from 1 percent to 2 percent on January 1, 2055; and from 2 percent to 2.5 percent on January 1, 2066.
As of July 1, 2017, the COLA is assumed to increase from 1 percent to 2 percent on January 1, 2042; and from 2 percent to 2.5 percent on January 1, 2052.
No COLA assumption changes in 2018.

Note: Schedule is intended to show a 10-year trend. Additional years will be reported as they become available.

(Unaudited)

ST. PAUL TEACHERS' RETIREMENT FUND ASSOCIATION
ST. PAUL, MINNESOTA

SCHEDULE OF EMPLOYER AND NON-EMPLOYER CONTRIBUTIONS
(DOLLARS IN THOUSANDS)

Fiscal Year Ending June 30	**2018**	**2017**	**2016**	**2015**
Actuarially determined contribution	**$ 38,196**	**$ 39,172**	**$ 39,155**	**$ 40,320**
Actual non-employer contributions	$ 10,665	$ 10,665	$ 10,665	$ 10,665
Actual employer contributions	28,544	27,685	26,563	26,046
Total contributions	**$ 39,209**	**$ 38,350**	**$ 37,228**	**$ 36,711**
Annual Contribution Deficiency (Excess)	**$ (1,013)**	**$ 822**	**$ 1,927**	**$ 3,609**
Covered-employee payroll	$ 263,122	$ 264,342	$ 258,787	$ 263,844
Contributions as a percent of covered-employee payroll	14.90%	14.51%	14.39%	13.91%

(Unaudited)

The notes to the required supplementary information are an integral part of this schedule.

EXHIBIT A-2

	2014		2013		2012		2011		2010		2009
$	**40,916**	**$**	**41,424**	**$**	**29,797**	**$**	**33,819**	**$**	**30,328**	**$**	**29,007**
$	10,665	$	3,665	$	3,658	$	4,077	$	4,108	$	3,343
	24,532		22,780		21,452		21,013		21,018		21,501
$	**35,197**	**$**	**26,445**	**$**	**25,110**	**$**	**25,090**	**$**	**25,126**	**$**	**24,844**
$	**5,719**	**$**	**14,979**	**$**	**4,687**	**$**	**8,729**	**$**	**5,202**	**$**	**4,163**
$	259,740	$	247,432	$	239,053	$	239,738	$	239,996	$	243,166
	13.55%		10.69%		10.50%		10.47%		10.47%		10.22%

ST. PAUL TEACHERS' RETIREMENT FUND ASSOCIATION
ST. PAUL, MINNESOTA

EXHIBIT A-3

SCHEDULE OF INVESTMENT RETURNS

Fiscal Year Ending June 30	Annual Return (%)
2018	9.75
2017	13.93
2016	0.34
2015	2.65
2014	18.50

Annual money-weighted rate of return net of investment expense.

This schedule is presented to illustrate the requirement to show information for 10 years. However, until a full 10-year trend is compiled, the St. Paul Teachers' Retirement Fund Association will present information for those years for which information is available.

(Unaudited)

The notes to the required supplementary information are an integral part of this schedule.

Actuarial Methods and Assumptions

The information presented in the required supplementary schedules was used in the actuarial valuation for purposes of determining the actuarially determined contribution rate. The assumptions and methods used for this actuarial valuation were recommended by the actuary and adopted by the Board. Additional information as of the latest actuarial valuation follows.

Valuation Date:	June 30, 2018
Notes	Actuarially determined contribution rates are calculated as of each July 1.

Methods and Assumptions Used to Determine Contribution Rates:

Funding Valuation Date	June 30, 2017
Actuarial Cost Method	Entry Age Normal
Amortization Method	Level Percentage of Payroll, Closed
Remaining Amortization Period	25 years
Asset Valuation Method	5-year smoothed market; no corridor
Assumed Inflation	3.00 percent
Salary Increases	4.00 percent to 8.90 percent; age and service based
Investment Rate of Return	8.00 percent
Retirement Age	Experienced-based table of rates specific to the type of eligibility condition. Last updated for the 2012 valuation pursuant to an experience study of the period 2006 – 2011.
Mortality	RP-2000 Combined Mortality Table, projected with Scale AA to 2020, set back one year for males and set back three years for females

Other Information:

Notes	For actuarially determined contribution rate purposes, the plan is assumed to pay a 2.00 percent post-retirement benefit increase beginning January 1, 2042, and a 2.50 percent post-retirement benefit increase beginning January 1, 2052.

Changes in Actuarial Assumptions and Plan Provisions

As a result of the 2018 experience study as well as the 2018 Omnibus Pension and Retirement Bill, the following assumption and method changes are reflected in the actuarial funding valuation report:

2018 Actuarial Assumptions

- The assumed investment return was lowered from 8.00 percent to 7.50 percent.
- The assumed wage inflation decreased from 4.0% to 3.0%.
- Salary increase rates were updated from an age-based table with a service-based component during the first 15 years, to a service-based table of rates.
- Retirement, withdrawal, and disability rates were adjusted to better fit observed experience.
- The mortality table was updated from the RP-2000 Mortality Table (with adjustments) projected with Scale AA to 2020, to the RP-2014 Mortality Table, with white collar adjustment, set back two years for females, projected with Scale MP-2017 from 2006.
- The statutory amortization period was changed from June 30, 2042, to June 30, 2048.

2018 Plan Provisions

- The annuity benefit increases changed to 0.00 percent for January 1, 2019 and 2020, with 1.00 percent payable thereafter. In addition, for retirements on or after July 1, 2024, the first benefit increase is delayed until the retiree reaches Normal Retirement Age (not applicable to Rule of 90 retirees, Rule of 62/30 retirees, disability benefit recipients, or survivors).
- Interest credited on member contributions decreased from 4.0% to 3.0% prospectively, beginning July 1, 2018.
- Lower early retirement factors will be phased in over a sixty-month period starting July 1, 2019.
- Deferred augmentation was changed to 0.00% prospectively, effective July 1, 2019.

Changes in Actuarial Assumptions and Plan Provisions

2018 Plan Provisions (Continued)

- Statutory contribution rates for members and their employers are shown as a percent of pay below:

	Plan Contribution Rates: Basic/Coordinated		
Contributions After June 30	Member (%)	Employer Regular (%)	Employer Additional (%)
2018	10.000/7.500	10.835/7.335	3.640/3.840
2019	10.000/7.500	11.670/8.170	3.640/3.840
2020	10.000/7.500	11.880/8.380	3.640/3.840
2021	10.000/7.500	12.090/8.590	3.640/3.840
2022	10.250/7.750	12.300/8.800	3.640/3.840
2023	10.250/7.750	12.500/9.000	3.640/3.840

- Additional supplemental contributions of $5,000,000 will be made by the State of Minnesota annually beginning October 1, 2018.

- The plan's statutory amortization period was changed from June 30, 2042, to June 30, 2048.

2017

- The Combined Service Annuity (CSA) loads on liabilities were changed as follows:

	Active Pre-89 (%)	Active Post-89 (%)	Vested Terminated (%)	Non-Vested Terminated (%)
Prior	7.0	2.0	30.0	30.0
Current	0.0	0.0	20.0	9.0

2016

- No significant changes.

Changes in Actuarial Assumptions and Plan Provisions (Continued)

2015

- The assumed investment return rate was changed to 8.00 percent from the previously required "select and ultimate" approach (8.00 percent through 2017 and 8.50 percent thereafter).

- The interest rate accruing for service purchases (refund repayments or leave of absence service purchase) decreased to 8.00 percent for the portion of any service purchases which cover repayment of refunded service originally earned, or leaves of absence taken, on or after July 1, 2015. The 8.50 percent rate continues to apply to interest accrual periods through June 30, 2015, with the 8.00 percent rate applying only to interest accrual periods occurring on or after July 1, 2015.

- Once the Fund has attained a 90 percent funding level for two consecutive years, the post-retirement benefit increase (COLA) will be 2.50 percent, rather than the previous increase provision of CPI-based up to 5.00 percent.

- Statutory contribution rates for members and their employers are shown as a percent of pay below:

	Plan Contribution Rates: Basic/Coordinated		
Contributions After June 30	Member (%)	Employer Regular (%)	Employer Additional (%)
2014	9.00/6.50	9.00/5.50	3.64/3.84
2015	9.50/7.00	9.50/6.00	3.64/3.84
2016	10.00/7.50	9.75/6.25	3.64/3.84
2017	10.00/7.50	10.00/6.50	3.64/3.84

2014

- The post-retirement benefit increase provision was modified to allow the Fund to change future rates for COLA increases once the Fund's Accrued Liability Funding Ratio reached 80 percent or 90 percent for two consecutive years, rather than the previous one year. The actual COLA rates remain as modified in 2011.

- The State of Minnesota supplemental contribution of $7,000,000 (which was initially passed for two years only) was extended as an open and standing appropriation. This aid will terminate upon the Plan's full funding target date of the actual full funding, or June 30, 2042, whichever occurs first.

Changes in Actuarial Assumptions and Plan Provisions (Continued)

2013

- Projected salary increase rates ranging from 5.00 percent to 9.90 percent were reduced to 4.00 percent to 8.90 percent as included in the 2013 Omnibus Retirement Bill.

- Statutory employee contributions will be increased by one-half percent increments in both 2015 and 2016, while the employer contributions will increase by one-half percent in 2015 and one-quarter percent in both 2016 and 2017. All of these contribution changes take effect July 1st of each year.

- The State of Minnesota is scheduled to make annual supplemental contributions of $7,000,000 on October 1, 2013 and 2014.

- Actuarial early retirement factors were changed to a table of stated reductions, with lower reductions for members who retire after 62 with at least 30 years of service.

- For Coordinated Plan members, the formula multiplier was changed from 1.7 percent to 1.9 percent for service after June 30, 2015. For the Tier I formula, the 1.2 percent formula multiplier applicable to the first ten years of service was changed to 1.4 percent for service after June 30, 2015.

  Annuitants re-employed by St. Paul Public Schools (SPPS). These provisions effect St. Paul Teachers' Retirement Fund Association (SPTRFA) retirees who return to work for SPPS and exceed the $46,000 re-employed earnings threshold. For each $3 earned over the $46,000 calendar year limit, the member's pension is reduced by $1. This provision applies until the re-employed annuitant reaches Social Security normal retirement age. As of July 1, 2013, any withheld benefits accrue no interest, and the amounts withheld are forfeited to the Fund. Balances existing as of June 30, 2013, will not be forfeited, but will accrue no further interest. Also, the required period of separation from SPPS increased to 90 days from 30 days, with a re-employed annuitant penalty for violation of the return to work law. Employer contributions are now required to be made for any SPTRFA annuitant who is re-employed with SPPS. The post-retirement re-employment includes direct or contracted services. No employee contributions are required of the re-employed annuitants.

Changes in Actuarial Assumptions and Plan Provisions (Continued)

2012

- The legislated assumed investment return rate of 8.50 percent (pre-retirement and post-retirement) changed to select and ultimate rates of 8.00 percent for the period July 1, 2012, through June 30, 2017, and 8.50 percent thereafter.

- The underlying inflation rate assumption is 3.00 percent. Previously, the rate was unstated.

- The payroll growth and wage inflation rate was reduced from 5.00 percent to 4.00 percent.

- Mortality assumptions were updated:

    Previously, pre-retirement mortality assumptions were based on the 1983 Group Annuity Mortality Table with rates set back seven years for males and five years for females; post-retirement mortality assumptions were based on the 1983 Group Mortality Table with rates set back four years for males and one year for females. Post-disability mortality assumptions were based on the 1977 Railroad Retirement Board Mortality Table for Disabled Lives.

    Currently, pre-retirement and post-retirement mortality assumptions for non-disabled participants are based on the RP-2000 Combined Mortality Table projected with Scale AA to 2020 with rates set back one year for males and three years for females. Disabled mortality assumptions are based on the RP-2000 Disabled Life Mortality Table for males and females.

2011

- Effective July 1, 2011, for the next COLA payable January 1, 2012, the 2011 Omnibus Pension Bill modified statutes to provide a transitional change to the COLA. If the Accrued Liability Funding Ratio, based on the Actuarial Value of Assets, as determined by the most recent actuarial valuation is:

    - less than 80 percent: 1.0 percent;

    - at least 80 percent, but less than 90 percent: 2.0 percent;

Changes in Actuarial Assumptions and Plan Provisions

2011 (Continued)

- if at least 90 percent, then the subdivisions for the 1.0 percent and 2.0 percent provisions above will expire, and COLAs will be paid as follows:

  Increases will be equal to the Consumer Price Index - Urban Wage Earners and Clerical Workers All Items Index as reported by the Bureau of Labor Statistics within the United States Department of Labor each year as part of the determination of the annual COLA paid to recipients of federal old age, survivors, and disability insurance. The increase amount may not be a negative number and may not exceed 5.00 percent.

- When a refund is taken in lieu of a lifetime benefit, the interest credited to member contribution accounts was reduced from 6.00 percent to 4.00 percent.

- Augmentation of deferred retirement benefits was changed prospectively, starting July 1, 2012, to a rate of 2.00 percent.

2010

- A one-year COLA suspension, for January 1, 2011, was passed in the 2010 Legislative Session.

- Statutory employer and employee contributions will increase by one-quarter of one percent increments over four years, with the first increase scheduled on July 1, 2011.

2009

- Under a two-year pilot program, commencing with increases for calendar year 2010, the SPTRFA will pay a retirement benefit COLA similar to that of the U.S. Social Security Administration up to a maximum of 5.00 percent. The full COLA amount will be equal to current year average third quarter CPI-w over the same figure for the prior year. Members with less than one full year in pay status will receive a pro-rated COLA based on full calendar quarters.

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Other Information Section

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STATE OF MINNESOTA
OFFICE OF THE STATE AUDITOR

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INDEPENDENT AUDITOR'S REPORT

Board of Trustees
St. Paul Teachers' Retirement Fund Association
St. Paul, Minnesota

Report on the Schedules

We have audited the accompanying schedule of employer and non-employer allocations of the St. Paul Teachers' Retirement Fund Association as of and for the year ended June 30, 2018, and the related notes. We have also audited the total for all entities of the columns titled net pension liability, total deferred outflows of resources, total deferred inflows of resources, and total pension expense (specified column totals) included in the accompanying schedule of pension amounts by entity of the St. Paul Teachers' Retirement Fund Association as of and for the year ended June 30, 2018, and the related notes.

Management's Responsibility for the Schedules
Management is responsible for the preparation and fair presentation of these schedules 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 the schedules that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility
Our responsibility is to express opinions on the schedule of employer and non-employer allocations and the specified column totals included in the schedule of pension amounts by entity based on our audit. We conducted our audit 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 schedule of employer and non-employer allocations and specified column totals included in the schedule of pension amounts by entity are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the schedule of employer and non-employer allocations and the specified column totals included in the schedule of pension amounts by entity. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the schedule of employer and non-employer allocations and the specified column totals included in the schedule of pension amounts by entity, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Association's preparation and fair presentation of the schedule of employer and non-employer allocations and the specified column totals included in the schedule of pension amounts by entity 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 Association'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 schedule of employer and non-employer allocations and the specified column totals included in the schedule of pension amounts by entity.

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

Opinions

In our opinion, the schedules referred to above present fairly, in all material respects, the employer and non-employer allocations and the net pension liability, total deferred outflows of resources, total deferred inflows of resources, and total pension expense for the total of all participating entities of the St. Paul Teachers' Retirement Fund Association as of and for the year ended June 30, 2018, in accordance with accounting principles generally accepted in the United States of America.

Other Matter

We have audited, in accordance with auditing standards generally accepted in the United States of America, the financial statements of the St. Paul Teachers' Retirement Fund Association as of and for the year ended June 30, 2018, and our report thereon dated January 10, 2019, expressed an unmodified opinion on those financial statements.

Restriction on Use

This report is intended solely for the information and use of management, the Board of Trustees, St. Paul Teachers' Retirement Fund Association employers and non-employer entities, and their auditors, and is not intended to be, and should not be, used by anyone other than those specified parties.

/s/Julie Blaha	*/s/Greg Hierlinger*
JULIE BLAHA STATE AUDITOR	GREG HIERLINGER, CPA DEPUTY STATE AUDITOR

January 10, 2019

ST. PAUL TEACHERS' RETIREMENT FUND ASSOCIATION
ST. PAUL, MINNESOTA

EXHIBIT B-1

SCHEDULE OF EMPLOYER AND NON-EMPLOYER ALLOCATIONS
AS OF THE MEASUREMENT DATE OF JUNE 30, 2018

Entity	2018 Actual Contributions	Allocation Percentage (%)
State of Minnesota	$ 10,664,610	27.481
St. Paul College	40,206	0.104
St. Paul Public Schools	28,102,015	72.415
Total	**$ 38,806,831**	**100.00**

The notes to the required schedules are an integral part of this schedule.

ST. PAUL TEACHERS' RETIREMENT FUND ASSOCIATION
ST. PAUL, MINNESOTA

SCHEDULE OF PENSION AMOUNTS BY ENTITY
AS OF AND FOR THE YEAR ENDED JUNE 30, 2018

			Deferred Outflows of Resources			
Entity	Allocation Percentage (%)	Net Pension Liability	Differences Between Expected and Actual Experience	Changes of Assumptions	Changes in Proportion and Differences Between Entity Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources
State of Minnesota	27.481	$ 166,430,707	$ 976,125	$ 24,436,380	$ -	$ 25,412,505
St. Paul College	0.104	629,846	3,694	92,478	15,823	111,995
St. Paul Public Schools	72.415	438,560,447	2,572,181	64,392,142	7,146,831	74,111,154
Total	**100.000**	**$ 605,621,000**	**$ 3,552,000**	**$ 88,921,000**	**$ 7,162,654**	**$ 99,635,654**

The notes to the required schedules are an integral part of this schedule.

Deferred Inflows of Resources					Pension Expense		
Differences Between Expected and Actual Experience	Changes of Assumptions	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes in Proportion and Differences Between Entity Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	Proportionate Share of Plan Pension Expense	Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Entity Contributions and Proportionate Share of Contributions	Total Pension Expense
$ 6,617,975	$ 3,111,124	$ 795,850	$ 6,674,339	$ 17,199,288	$ (4,688,259)	$ (3,950,292)	$ (8,638,551)
25,045	11,774	3,012	488,315	528,146	(17,742)	(271,979)	(289,721)
17,438,980	8,198,102	2,097,138	-	27,734,220	(12,353,999)	4,222,271	(8,131,728)
$ 24,082,000	**$ 11,321,000**	**$ 2,896,000**	**$ 7,162,654**	**$ 45,461,654**	**$ (17,060,000)**	**$ -**	**$ (17,060,000)**

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ST. PAUL TEACHERS' RETIREMENT FUND ASSOCIATION
ST. PAUL, MINNESOTA

NOTES TO THE REQUIRED SCHEDULES
AS OF AND FOR THE YEAR ENDED JUNE 30, 2018

Summary

The St. Paul Teachers' Retirement Fund Association (SPTRFA) is classified as a cost-sharing multi-employer defined benefit pension plan. As specified in Governmental Accounting Standards Board (GASB) Statement 68, employers that participate in SPTRFA are required to recognize their proportionate share of the collective pension amounts for all benefits provided through the Fund. Pension amounts to be recognized by employers include the net pension liability, deferred outflows of resources related to pensions, deferred inflows of resources related to pensions, and pension expense. In addition, the effects of (1) a change in the employer's proportion of the collective net pension liability and (2) differences during the measurement period between the employer's contributions and its proportionate share of the total contributions from employers included in the collective net pension liability are required to be determined and recognized. The State of Minnesota is statutorily required to make contributions to the Fund; therefore, the state is classified as a non-employer contributor who will share in the liabilities and will also be required to recognize its share of the employer costs.

The basis of the allocation of collective pension amounts should be consistent with the manner in which contributions are paid to the plan. Since contributions to SPTRFA are collected as a percentage of payroll, covered employee payroll for the fiscal year ending June 30, 2018, is used as the proportionate share of allocation basis. The required annual contributions made by the State of Minnesota were used to calculate its proportionate share. SPTRFA employees are covered by the plan and make contributions, however, they are excluded from the allocation of pension amounts.

Reconciliation of Financial Statement Employer Contributions to Total Employer Contributions Reported on the Schedule of Employer and Non-Employer Allocations

While GASB 68 allows the employer's proportionate share of the collective pension amounts to be based on historical employer contributions, it encourages the use of the employer's projected long-term contributions effort to the retirement plan. The following is a reconciliation of employer contributions presented in SPTRFA's Statement of Changes in Fiduciary Net Position to the employer contributions presented in the Schedule of Employer and Non-Employer Allocations.

Reconciliation of Financial Statement Employer Contributions to Total Employer Contributions Reported on the Schedule of Employer and Non-Employer Allocations (Continued)

Employer contributions reported in the Statement of Changes in Fiduciary Net Position	$	28,544,236
Deduct employer contributions not related to future contribution efforts		(348,494)
Deduct SPTRFA's contributions not included in allocation		(53,521)
Total employer contributions	$	28,142,221
Total non-employer contributions		10,664,610
Total Contributions Reported in Schedule of Employer and Non-Employer Allocations	$	38,806,831

Actuarial Methods and Assumptions

The information presented in the schedule of employer and non-employer allocations and the schedule of pension amounts by entity was based on the actuarial valuation for purposes of determining the net pension liability. The assumptions and methods used for this actuarial valuation were recommended by the actuary and adopted by the Board. Additional information as of the latest actuarial valuation follows.

Valuation Date: June 30, 2018
Measurement Date of the Net Pension Liability: June 30, 2018

Methods and Assumptions Used to Determine Net Pension Liability:

Actuarial Cost Method	Entry Age Normal
Price Inflation	2.50 percent per annum
Wage Inflation	3.00 percent per annum
Salary Increases	3.00 percent to 9.00 percent; service based
Investment Rate of Return	7.50 percent per year
Annuitant Mortality	RP-2014 Healthy Mortality Table, with white collar adjustment, set back two years for females, projected with Scale MP-2017 from 2006.

Actuarial Methods and Assumptions (Continued)

Other Information:

Notes

The actuarial methods and assumptions were last updated for the July 1, 2018, valuation as a result of an experience study during the five-year period from July 1, 2011, to June 30, 2016, as well as a legislated change to the investment return assumption effective July 1, 2018.

The recognition period for the measurement of inflows and outflows of resources due to liabilities, based on the average expected remaining service lives of all employees, changed from five years to four years, beginning in 2016.

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**Management and
Compliance Section**

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OFFICE OF THE STATE AUDITOR

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INDEPENDENT AUDITOR'S REPORT ON MINNESOTA LEGAL COMPLIANCE

Board of Trustees
St. Paul Teachers' Retirement Fund Association
St. Paul, Minnesota

We have audited, in accordance with auditing standards generally accepted in the United States of America, the accompanying financial statements of the St. Paul Teachers' Retirement Fund Association as of and for the year ended June 30, 2018, and the related notes to the financial statements, which collectively comprise the Association's basic financial statements, and have issued our report thereon dated January 10, 2019.

The *Minnesota Legal Compliance Audit Guide for Relief Associations*, promulgated by the State Auditor pursuant to Minn. Stat. § 6.65, contains two categories of compliance applicable to all public pension plans in the state. We tested deposits and investments and portions of the general relief association section applicable to all public pension plans. Our audit considered both of the listed categories.

In connection with our audit, nothing came to our attention that caused us to believe that the St. Paul Teachers' Retirement Fund Association failed to comply with the applicable provisions of the *Minnesota Legal Compliance Audit Guide for Relief Associations*. However, our audit was not directed primarily toward obtaining knowledge of such noncompliance. Accordingly, had we performed additional procedures, other matters may have come to our attention regarding the Association's noncompliance with the above referenced provisions.

This report is intended solely for the information and use of the Board of Trustees and management of the St. Paul Teachers' Retirement Fund Association and the State Auditor, and is not intended to be, and should not be, used by anyone other than those specified parties.

/s/Julie Blaha

JULIE BLAHA
STATE AUDITOR

/s/Greg Hierlinger

GREG HIERLINGER, CPA
DEPUTY STATE AUDITOR

January 10, 2019