

State of Minnesota



Office of the State Auditor

Julie Blaha
State Auditor

**Large Public Pension Plan
Investment Report**

For the Year Ended December 31, 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 100 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 Minnesota’s local 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.

Office of the State Auditor
525 Park Street, Suite 500
Saint Paul, Minnesota 55103
(651) 296-2551
state.auditor@osa.state.mn.us
www.auditor.state.mn.us

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Large Public Pension Plan Investment Report

For the Year Ended December 31, 2018



March 18, 2020

Pension Division
Office of the State Auditor
State of Minnesota

Pension Division

Rose Hennessy Allen, *Pension Director*
Michael Johnson, *Management Analyst 2*
Maia Dabney-Miller, *Management Analyst*
Molly Resch, *Management Analyst*
Robin Paulsen, *Office and Administrative Specialist Senior*

Legal Counsel

David Kenney

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Scope and Methodology

This report reviews the investment performance of Minnesota's large local public pension plans for the 2018 calendar year. The public pension plans included in this report are the Bloomington Fire Department Relief Association (Bloomington Fire) and the St. Paul Teachers' Retirement Fund Association (St. Paul Teachers'). The State Board of Investment (SBI), which is referenced frequently, is not a pension plan, but invests the assets of certain public employee pension plans administered by the Minnesota State Retirement System, the Public Employees Retirement Association, and the Teachers Retirement Association.

These pension plans and the SBI held over \$65.2 billion in assets as of December 31, 2018, which represents the future retirement benefits of hundreds of thousands of public employees.

Limited information for the University of Minnesota Supplemental Benefits Plan is also included in this report. This plan has a total market value of less than \$25 million during 2018, so its statutory reporting requirements are less than the reporting requirements for the other plans included in this report. Therefore, only a brief description of activities for the plan is provided, and the plan is not included in the report tables.

Pension plans are required under Minnesota Statutes, section 356.219, to annually report investment information to the Office of the State Auditor (OSA), and the State Auditor is required to provide a report to the legislature on the investment performance of these plans. One way to measure investment performance is to calculate a rate of return which can then be used to compare a plan against a benchmark or against other plans. The methodologies used by the large plans to calculate rates of return may vary from one another and from the methodology used by the OSA. To obtain analogous comparisons of investment performance, the OSA calculates rates of return using a uniform calculation method.¹ Using a uniform calculation method allows for a fair comparison of performance among plans.

The purpose of this report is to inform lawmakers of the large plans' investment performance, educate fiduciaries and members of the plans, and provide transparency to the public.

¹ Minnesota Statutes, section 356.219, requires the OSA to compute and report total portfolio and asset class time-weighted rates of return, net of all costs and fees. The Bloomington Fire Department Relief Association and the State Board of Investment are permitted by the statute to submit limited reporting information. Therefore, the rates of return included in this report for the Bloomington Fire Department Relief Association and the State Board of Investment are provided by the entities and are not re-calculated by the OSA.

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Executive Summary

Current Trends

- During 2018, the rate of return for the Bloomington Fire Department Relief Association (Bloomington Fire) was negative 4.2 percent, and the rate of return for the St. Paul Teachers' Retirement Fund Association (St. Paul Teachers') was negative 4.1 percent. Bloomington Fire and St. Paul Teachers' failed to exceed their benchmark rates of return. The rate of return for the State Board of Investment (SBI)'s Combined Funds was negative 2.9 percent. (Pages 5 through 7)

Long-Term Trends

- Bloomington Fire failed to exceed its actuarial assumed rate of return over the ten-year period from January 2009 through December 2018. St. Paul Teachers' did exceed its actuarial assumed rate of return over the ten-year period. The SBI's Combined Funds returned 9.9 percent for the period. St. Paul Teachers' earned 9.0 percent over the ten-year period, while Bloomington Fire returned 4.7 percent. (Page 8)

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2018 Performance Analysis

Investment returns varied by asset class in 2018. The S&P 500 Index, which is a gauge of the large-capitalization U.S. equities market, returned negative 4.4 percent in 2018. The Russell 3000 Index measures the performance of the largest 3,000 U.S. companies, representing nearly all of the U.S. equity market. The Russell 3000 Index returned negative 5.2 percent.

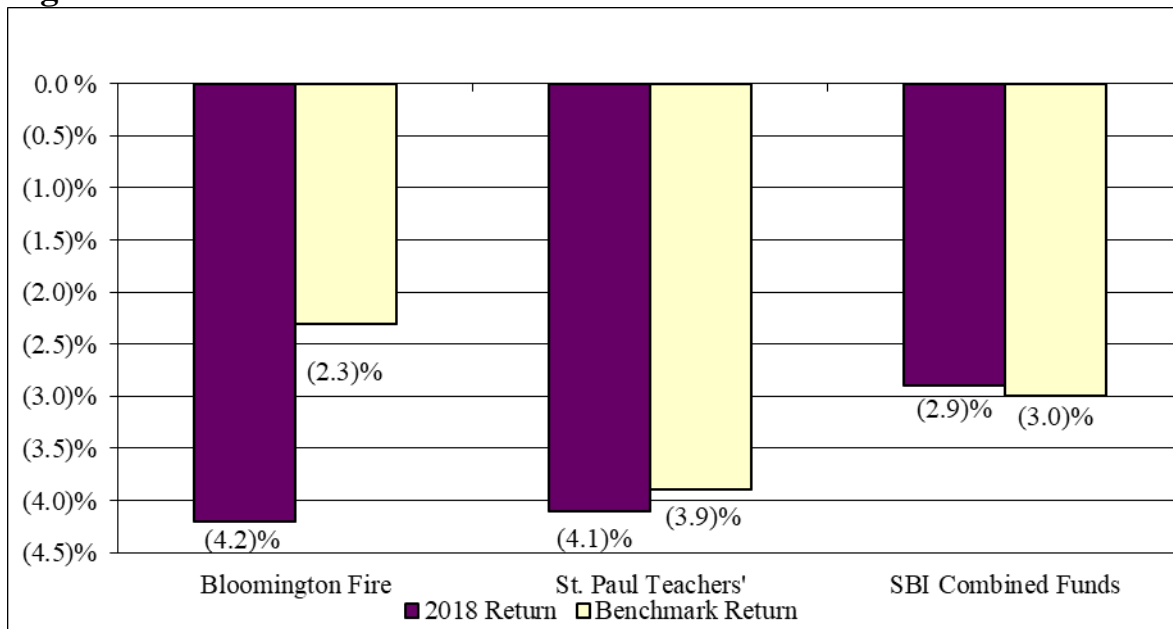
International equities returned negative 13.8 percent as measured by the Morgan Stanley Capital International (MSCI) All Country World Index excluding the United States (ACW Index ex. U.S.). This index measures the performance of both developed and emerging markets.

Domestic bonds returned zero percent as measured by the Bloomberg Barclays (BBgBarc) U.S. Aggregate Index. The 2018 returns for bonds underperformed the 3.5 percent return for this asset class during 2017.

In 2018, economic indicators varied from 2017 as unemployment dropped to 3.9 percent and consumer spending decreased by 2.9 percent. The Consumer Price Index, which measures inflation, decreased to 1.9 percent.

Figure 1, below, compares the 2018 rates of return and benchmark returns for the large plans and the State Board of Investment.

Figure 1: 2018 Rates of Return and Benchmark Return



Bloomington Fire Department Relief Association

The Bloomington Fire Department Relief Association (Bloomington Fire) consists of retired and active firefighters of the City of Bloomington. Bloomington Fire is the administrator of a single-employer defined-benefit pension plan available to firefighters, which was established April 1, 1947.² Bloomington Fire is governed by a Board of Trustees made up of six members elected by the members of the plan for three-year terms, one elected City official, one elected or appointed City official, and the Fire Chief, who serve as ex officio voting members of the Board.

Bloomington Fire returned negative 4.2 percent in 2018, failing to meet its benchmark return of negative 2.3 percent. The plan's market value decreased nearly \$10.9 million from 2017, ending 2018 at about \$166 million.

St. Paul Teachers' Retirement Fund Association

The St. Paul Teachers' Retirement Fund Association (St. Paul Teachers') is a non-profit organization formed in 1909.³ Under the oversight of a ten-member Board of Trustees, the St. Paul Teachers' staff manage 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 (ISD) No. 625, which is 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 the ISD. In 1978, the Coordinated Plan commenced, and it provides retirement benefits for members who simultaneously participate in Social Security.

St. Paul Teachers' returned negative 4.1 percent in 2018, as calculated by the OSA, falling short of its benchmark return of negative 3.9 percent. The plan's market value at the end of 2018 was about \$982 million, a decrease of \$97.4 million from 2017.

State Board of Investment

The State Board of Investment (SBI) was established by Article XI of the Minnesota Constitution to invest state funds. The SBI is responsible for the investment management of various retirement funds, trust funds, and cash accounts. Its membership, as specified in the Constitution, is comprised of the Governor (who is designated as chair of the Board), the State Auditor, the Secretary of State, and the State Attorney General. All investments undertaken by the SBI are governed by the prudent person rule and other standards codified in Minnesota Statutes, Chapter 11A and Chapter 356A.

² See Bloomington Fire Department Relief Association [December 31, 2018, Financial Statements and Management Letter](#), page nine.

³ See St. Paul Teachers' Retirement Fund Association [June 30, 2018, Financial Statements and Management Letter](#), page five.

The SBI's Combined Funds returned negative 2.9 percent in 2018, exceeding its benchmark return of negative 3.0 percent.

University of Minnesota Supplemental Benefits Plan

The University of Minnesota Supplemental Benefits Plan is a University-funded defined-benefit plan designed to provide additional retirement benefits for certain groups of individuals.⁴ As of July 1, 2018, the plan had two active members, and 71 retirees and survivors who were receiving or were entitled to receive benefits. No additional participants in the plan are expected, as the eligible population is a closed group.

The Supplemental Benefits Plan is invested in the University of Minnesota Group Income Pool (GIP). The GIP is invested in a diversified bond fund, which is measured against the BBgBarc U.S. Aggregate Index. The BBgBarc U.S. Aggregate Index returned zero percent during 2018. The GIP returned 0.7 percent during the same period. The Supplemental Benefits Plan had a rate of return of negative 0.2 percent for 2018, as calculated by the OSA. The rate of return calculated by the OSA was for the Supplemental Benefits Plan only, and not for the entire GIP.

| | |
|---|-------------|
| Beginning Market Value | \$968,560 |
| Net Cash Flows | \$(177,022) |
| Investment Returns | \$(3,755) |
| Ending Market Value | \$787,783 |
| OSA One-Year Rate of Return | (0.2)% |
| OSA Three-Year Rate of Return | 2.0% |
| OSA Five-Year Rate of Return | 1.9% |
| Group Income Pool One-Year Rate of Return | 0.7% |
| Benchmark Rate of Return | 0.0% |

⁴ Plan and membership information was obtained from the University of Minnesota Supplemental Benefits Plan July 1, 2018, Actuarial Valuation.

Ten-Year Performance Analysis

The rates of return over the last ten years have remained fairly consistent despite three years of limited or negative growth in 2011, 2015, and 2018. The investment returns of Minnesota's large plans over the ten-year period ending December 31, 2018, can be assessed by using market indices as benchmarks. The U.S. stock market, as measured by the Russell 3000 Index, posted positive returns during seven of the ten years. The Russell 3000 Index returned 13.2 percent over the ten-year period. Domestic equity represented the largest asset allocation for each of the large plans.

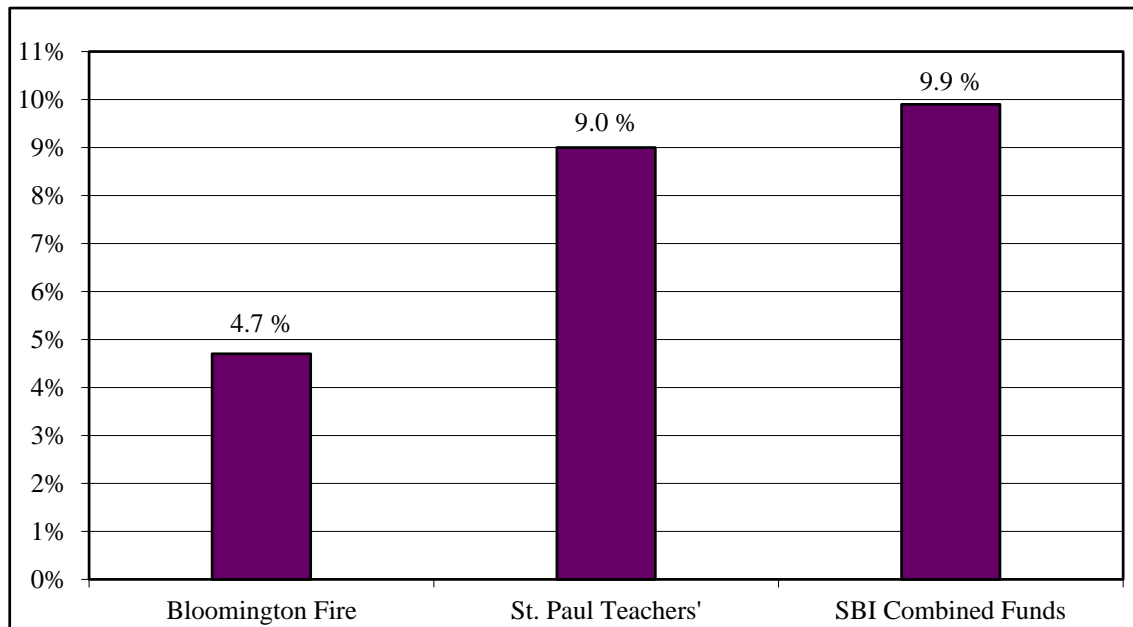
International equity, as measured by the MSCI ACWI Index ex. U.S., averaged 7.1 percent annually over the ten-year period.

The average bond market return over the ten-year period was 3.5 percent as measured by the Bloomberg Barclays U.S. Aggregate Index.

St. Paul Teachers' returned 9.0 percent over the ten-year period. The investment return assumption for St. Paul Teachers' ranged from 7.5 percent to 8.5 percent over the ten-year period.⁵ Bloomington Fire had a ten-year return of 4.7 percent, less than its actuarial assumed rate of return of 6.0 percent. For comparison purposes, the SBI had a ten-year return of 9.9 percent.

Figure 2 below shows the ten-year rates of return for the large plans and for the SBI.

Figure 2: Ten-Year Average Annual Rates of Return (2009-2018)



⁵ Legislation enacted in 2018 changed the investment return assumption for Saint Paul Teachers' to 7.5 percent.

Funding Ratios

Funding ratios show the relationship between a plan's assets and its liabilities. Over 100 percent means the plan had more assets than liabilities, while less than 100 percent means the plan had more projected liabilities than assets. A plan's liabilities are calculated by an actuary using statutory assumptions based on historical data. Examining the ratio between assets and liabilities can help determine how well funded the plan is, whether additional contributions to the plan will be needed, and whether future benefit increases would be sustainable. Investment returns, contributions, actuarial assumptions, plan provisions, changes in benefit levels, and historical funding issues are all factors that affect the financial health of the plan.

The funding ratios provided in this report are calculated based on each plan's fiscal year. Bloomington Fire has a December 31 fiscal year-end, while St. Paul Teachers' has a June 30 fiscal year-end.

In 2018, the funding ratio for Bloomington Fire was 108.0 percent. Saint Paul Teachers' had a funding ratio of 63.7 percent for 2018. Over the last ten years, the funding ratio for Bloomington Fire has increased 9.0 percent. St. Paul Teachers' funding ratio decreased over the last ten-year period by 8.5 percent.

Figures 3 and 4 illustrate the funding ratios for the large plans over the ten year period from 2009 to 2018.

Figure 3: Funding Ratios for Bloomington Fire – 2009 to 2018

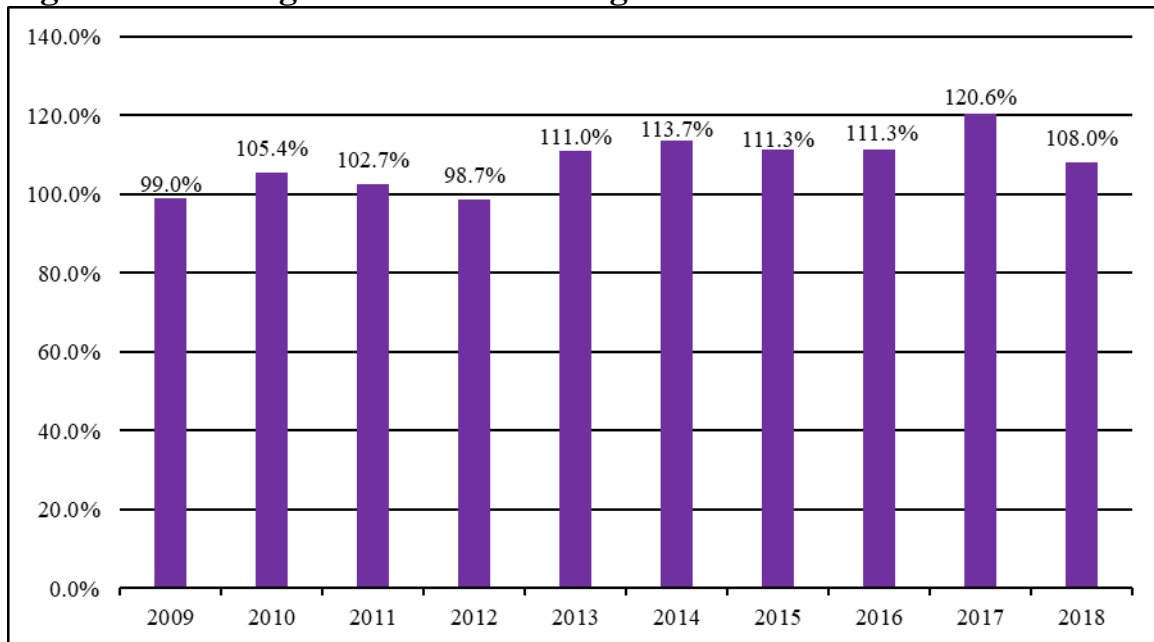
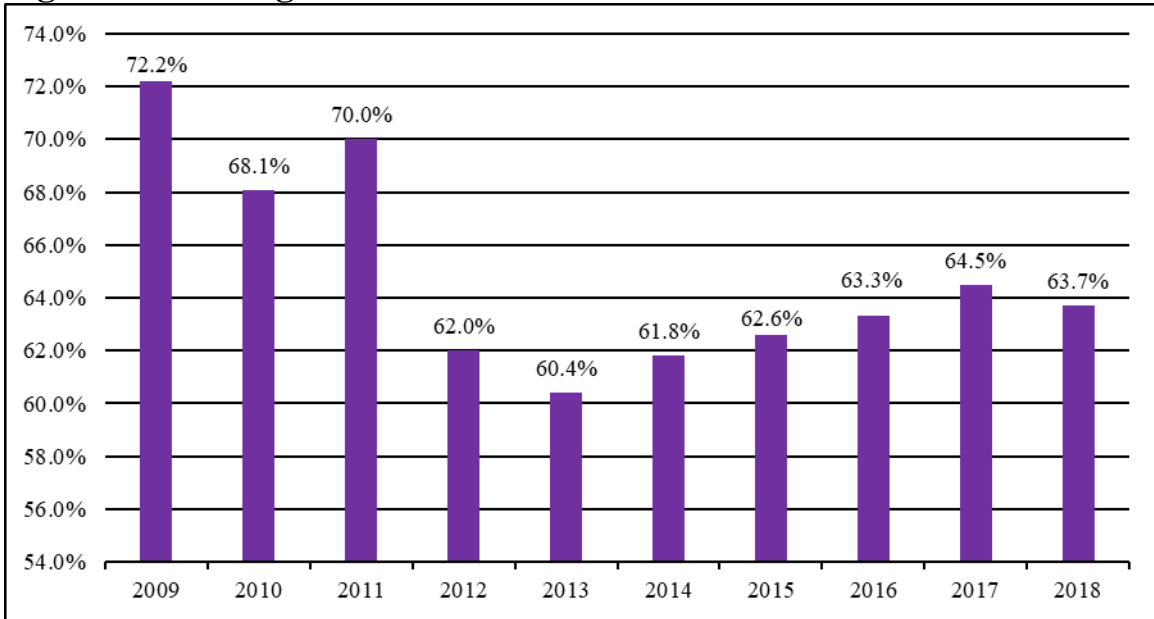


Figure 4: Funding Ratios for Saint Paul Teachers' – 2009 to 2018



2018 Plan Summaries

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How to Read the Plan Summaries

The plan summaries on pages 15 through 17 of this report contain various acronyms and investment terms that are defined below.

Rates of Return (ROR)

- **OSA One-Year ROR** - The pension plan's total return on its assets, as calculated by the OSA. *Note: Under State law, Bloomington Fire and the SBI submit only limited reporting information. The rates of return for Bloomington Fire and the SBI are provided by the entities and are not re-calculated by the OSA.*
- **Plan One-Year ROR** - The pension plan's return on its assets as calculated by the plan or its consultant.
- **Benchmark ROR** - The rate of return of a hypothetical portfolio invested in the plan's chosen benchmark components in the percentages dictated by the plan's investment policy. Although not perfect, it is a good measure of what return the plan could have achieved during the year.
- **Actuarial Assumed ROR** - The rate of return required for the plan to meet its actuarial assumptions.
- **Three-, Five-, and Ten-Year ROR** - The average annual returns earned by the plan over the specified time period, either calculated by the OSA or reported by the plan. *Note: Under State law, Bloomington Fire and the SBI submit only limited reporting information. The rates of return for Bloomington Fire and the SBI are provided by the entities and are not re-calculated by the OSA.*

Asset Class

Asset class is a group of similar investments, such as domestic equity, bonds, cash, or alternative investments. Pension plans invest in different asset classes for diversification purposes. When returns for one asset class decline, another may increase, offsetting the loss. In this report, any account or fund that holds investments from more than one asset class is reported as its own asset class.

Benchmark Components and Rates of Return

Benchmark components are the different indices to which the plan compares its investments. Indices track different asset classes, such as domestic equity or bonds. They may also track subsets of an asset class. To evaluate investment performance, it is important to use appropriate indices. The rates of return for each benchmark component are also provided.

Policy Asset Allocation

Policy asset allocation is the percentage allocated to each asset class in the investment policy.

Actual Asset Allocation

Actual asset allocation is the percentage actually invested in each asset class. In the plan summaries that follow, the actual asset allocation is measured at year-end.

Beginning Market Value/Ending Market Value

The market value is the price as determined by buyers and sellers in an open market. The dollar amount in the asset class or investment as of the beginning/end of 2018 is the beginning market value/ending market value.

Net Cash Flows

Net cash flows are the net amount of cash (or securities) deposited or withdrawn from the asset class or investment during the year.

Investment Return

Investment return is the net amount of interest, dividends, and appreciation or depreciation the asset class or investment gained or lost during the year.

Rate of Return

Rate of return is the net (after fees) return of the asset class or investment during the year.

Bloomington Fire Department Relief Association

For the Year Ended December 31, 2018

(Dollars in Thousands)

| Rates of Return (ROR) | |
|-----------------------|--------|
| Plan One-Year ROR | (4.2)% |
| Benchmark ROR | (2.3)% |
| Actuarial Assumed ROR | 6.0 % |
| Plan Three-Year ROR | 6.2 % |
| Plan Five-Year ROR | 5.3 % |
| Plan Ten-Year ROR | 4.7 % |

| Benchmark Components and Rates of Return | Policy Asset Allocation | Actual Asset Allocation |
|--|-------------------------|-------------------------|
| Russell 3000 | U.S. Equity | Domestic Equities |
| (5.2)% | 35.0 % | 38.0 % |
| MSCI ACWI ex USA | Intl. Developed Equity | Domestic Equities |
| (14.2)% | 10.0 % | 13.0 % |
| MSCI Emerging Markets | Intl. Emerging Equity | Intl. Emerging Equity |
| (14.6)% | 5.0 % | 3.0 % |
| Cambridge Associates PE | Private Equity | Private Equity |
| 20.4 % | 5.0 % | 1.0 % |
| NCREIF Property Index | Real Estate | Real Estate |
| 5.3 % | 5.0 % | 5.0 % |
| BBgBarc U.S. Aggregate | Bonds | Fixed Income |
| 0.0 % | 38.0 % | 38.0 % |
| 90-Day U.S. Treasury Bill | Cash | Cash |
| 1.9 % | 2.0 % | 2.0 % |

| Asset Class | Investment Type | Beginning Market Value | Net Cash Flow (Net of Fees) | Investment Return | Ending Market Value | Rate of Return |
|------------------------|------------------------|------------------------|-----------------------------|-------------------|---------------------|----------------|
| Domestic Equities | Domestic Equities | \$ 74,466 | \$ (8,499) | \$ (3,181) | \$ 62,786 | (5.0)% |
| International Equities | International Equities | 30,791 | 0 | (4,445) | 26,346 | (14.4)% |
| Private Equities | Private Equities | 278 | 639 | 60 | 977 | 20.4 % |
| Real Estate | Real Estate | 3,000 | 4,500 | 502 | 8,002 | 7.9 % |
| Fixed Income | Fixed Income | 66,636 | (3,505) | (57) | 63,074 | 0.0 % |
| Cash | Cash | 1,234 | 3,107 | (5) | 4,336 | (0.3)% |
| Total | | \$ 176,405 | \$ (3,758) | \$ (7,126) | \$ 165,521 | |

St. Paul Teachers' Retirement Fund Association

Year Ending December 31, 2018

(Dollars in Thousands)

| Rates of Return (ROR) | |
|-----------------------|--------|
| OSA One-Year ROR | (4.1)% |
| Plan One-Year ROR | (4.2)% |
| Benchmark ROR | (3.9)% |
| Actuarial Assumed ROR | 7.5 % |
| OSA Three-Year ROR | 6.7 % |
| OSA Five-Year ROR | 5.1 % |
| OSA Ten-Year ROR | 9.0 % |

| Asset Class | Benchmark Components and Rates of Return | | Policy Asset Allocation | | Actual Asset Allocation | |
|------------------------|--|------------------------|-----------------------------|--------------------|-------------------------|----------------|
| | Investment Type | Beginning Market Value | Net Cash Flow (Net of Fees) | Investment Return | Ending Market Value | Rate of Return |
| Domestic Equities | Domestic Equities | \$ 451,406 | \$ (41,015) | \$ (30,450) | \$ 379,941 | (7.5)% |
| Domestic Fixed Income | Domestic Fixed Income | 164,664 | (4,378) | 1,140 | 161,426 | 0.7 % |
| Real Estate | Real Estate | 106,825 | (5,496) | 190 | 101,519 | 0.2 % |
| International Equities | International Equities | 79,200 | 2,989 | (12,100) | 70,089 | (14.5)% |
| Global Equities | Global Equities | 134,033 | (5,000) | (11,136) | 117,897 | (8.5)% |
| Alternative Assets | Alternative Assets | 11,993 | (3,157) | 828 | 9,664 | 8.3 % |
| Private Equities | Private Equities | 72,006 | 6,322 | 7,949 | 86,277 | 10.8 % |
| Cash | Cash | 11,668 | 16,789 | 286 | 28,743 | (0.6)% |
| Treasury Bills | Treasury Bills | 10,970 | (2,000) | (204) | 8,766 | (1.9)% |
| Opportunistic | Opportunistic | 36,517 | (20,893) | 1,928 | 17,552 | 7.1 % |
| Total | Total | \$ 1,079,282 | \$ (55,839) | \$ (41,569) | \$ 981,874 | |

State Board of Investment

For the Year Ended December 31, 2018

(Dollars in Thousands)

| Rates of Return (ROR) | |
|------------------------------|--------|
| Plan One-Year ROR | (2.9)% |
| Benchmark ROR | (3.0)% |
| Actuarial Assumed ROR | 7.5 % |
| Plan Three-Year ROR | 7.3 % |
| Plan Five-Year ROR | 6.1 % |
| Plan Ten-Year ROR | 9.9 % |

| | Benchmark Components and Rates of Return | | Policy | | Actual | |
|---------------------------|---|--------|-----------------|-----------------|---------------|-------|
| | | (5.2)% | 51.0 % | | 58.4 % | |
| Russell 3000 | | | Public Equity | Public Equity | | |
| BBgBarc U.S. Aggregate | 0.0 % | | Private Markets | Private Markets | | |
| MSCI ACWI ex. U.S. (net) | (14.2)% | | Fixed Income | Fixed Income | | |
| 90-Day U.S. Treasury Bill | 1.9 % | | Treasuries | Treasuries | | |
| | | | Cash | Cash | | |
| | | | | | | 1.3 % |

| Asset Class | Investment Type | Beginning | | Net Cash Flow | | Investment | | Ending | | Rate of Return |
|------------------------|------------------------|----------------------|-----------------------|-----------------------|----------------------|-------------------|---------------------|---------------|--|-----------------------|
| | | Market Value | (Net of Fees) | Return | Market Value | Return | Market Value | Return | | |
| Domestic Equities | | \$ 30,200,506 | \$ (3,009,727) | \$ (1,365,261) | \$ 25,825,518 | (5.3)% | | | | |
| Fixed Income | | 12,580,881 | (2,856,416) | (42,277) | 9,682,188 | 0.0 % | | | | |
| International Equities | | 15,471,233 | (1,873,882) | (1,988,655) | 11,608,696 | (14.5)% | | | | |
| Private Markets | | 8,922,139 | (155,870) | 1,376,146 | 10,142,415 | 15.7 % | | | | |
| Cash | | 1,202,641 | (372,453) | 16,184 | 846,372 | 1.9 % | | | | |
| Treasuries | | 0 | 5,877,577 | 123,994 | 6,001,571 | NA | | | | |
| Total | | \$ 68,377,400 | \$ (2,390,771) | \$ (1,879,869) | \$ 64,106,760 | | | | | |

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