# State of Minnesota Office of the State Auditor 



Rebecca Otto State Auditor

## LARGE PUBLIC PENSION PLAN INVESTMENT REPORT

For the Year Ended December 31, 2007

## 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 160 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 730 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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# Large Public Pension Plan Investment Report 

# For the Year Ended December 31, 2007 



January 14, 2009

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## Scope and Methodology

This report reviews the investment performance of Minnesota’s large public pension plans for the 2007 calendar year. These pension plans and the State Board of Investment held nearly $\$ 54$ billion in assets as of December 31, 2007, and represent the retirement savings of hundreds of thousands of public employees. The pension plans are required under Minnesota Statutes, section 356.219, to annually report investment information to the Office of the State Auditor, and the State Auditor is required to provide a report to the legislature on the investment performance of these plans. ${ }^{1}$

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 each of the large plans and their consultants to calculate rates of return may vary from one another and from the methodology used by the Office of the State Auditor. To obtain analogous comparisons of investment performance, the Office of the State Auditor calculates rates of return using a uniform calculation method. Using a uniform calculation method, a fair comparison of performance between plans can be made.

Oversight of these pension plans is important to safeguard the pensions of public employees and limit local and state liabilities. This report informs lawmakers of the large plans’ investment performance, educates fiduciaries and members of the plans, and provides transparency to the public.

The six individual large public pension plans included in this report are the Bloomington Fire Department Relief Association, the Duluth Teachers’ Retirement Fund Association, the Minneapolis Employees Retirement Fund (MERF), the Minneapolis Firefighters' Relief Association, the Minneapolis Police Relief Association, and the St. Paul Teachers' Retirement Fund Association. 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.

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## Executive Summary

- During 2007, rates of return for the large plans ranged from 6.6 percent (Duluth Teachers') to 11.5 percent (Minneapolis Fire). Only half of the plans matched or exceeded their benchmarks. Rates of return for MERF, Minneapolis Police, and St. Paul Teachers' were below their benchmark returns. The SBI's Basic and Post Funds also missed their benchmark. (Pages 7 through 15.)
- Bloomington Fire is the only large plan that is fully funded. Funding ratios for the other large plans range from 73.0 percent (St. Paul Teachers') to 92.8 percent (Minneapolis Fire). Funding ratios increased for all of the plans during 2007, except for Bloomington Fire and MERF, whose funding ratios fell by 3.0 and 6.0 percent, respectively. (Pages 17 and 18.)
- The ten-year period beginning in January of 1998 and ending in December of 2007 began on the tail end of a market boom and ended just prior to a major economic downturn. MERF, Minneapolis Police, and Minneapolis Fire exceeded their actuarial assumed rate of return over this period, while Bloomington Fire, Duluth Teachers', and St. Paul Teachers' fell short of their respective marks. Most of the plans were able to keep up with or exceed market returns over this ten-year period. The best performing plans over the ten-year period were Duluth Teachers', Minneapolis Fire, and St. Paul Teachers'. Duluth Teachers' and St. Paul Teachers' both earned 8.4 percent, with Minneapolis Fire returning 7.9 percent. Each of these plans beat the returns for the SBI's Basic and Post Funds for the period. (Pages 21 through 23.)
- The poorest-performing plans for the ten-year period were Bloomington Fire and Minneapolis Police, with returns of 4.9 percent and 6.2 percent, respectively. During the past five years both plans have invested large shares of their portfolios in SBI funds with a long-term record of good performance, which should help them to keep pace with market returns in the future. (Pages 21 through 23.)


## Recommendations

The State Auditor provides the following recommendations based on a review of the large plans' reporting information.

- Investment policies should be updated to reflect the investment strategy of the plan. Many new investments and asset classes are becoming available for investment, and plan trustees must ensure their policies reflect any new investments or allocation changes. Plan trustees should understand the potential risks and rewards of these newer investments, and determine if they will bring added value to the plan's investment portfolio.
- The investment policy should be crafted and maintained with a long-term investment perspective in mind. Asset allocations expressed in the investment policy should be closely followed by the plans as part of a long-term investment strategy. Even as markets fluctuate, asset allocations should remain consistent with the policy.
- Trustees should understand their fund managers' investment strategies, monitor the performance of their active fund managers, and hold managers accountable for the performance of the assets being managed. Passively-managed funds and market indices serve as useful comparison tools for fund performance.


## Understanding Investment Performance Terms

## Asset Allocation

Asset allocation describes the practice of distributing a certain percentage of a portfolio between different types of investment assets, such as stocks, bonds, cash, real estate, and others. By diversifying an asset base, the goal is to create a favorable risk/reward ratio for a portfolio. When one asset class declines, the expectation is another will increase, offsetting the loss.

## Passive Investment Strategy

Passive investment strategy or passive management is more commonly called indexing. Indexing is an investment management approach based on investing in exactly the same securities, in the same proportions, as an index. The management style is considered passive because portfolio managers do not make decisions about which securities to buy and sell. Instead, managers simply copy the index by purchasing the same securities included in a particular stock or bond market index.

## Active Investment Strategy

Active investment strategy or active management is an attempt to "beat" the market as measured by a particular benchmark or index. The aim of active fund management is to outperform, after fees are paid, the index a particular fund is benchmarked against. Prevailing market trends, the economy, political and other current events, and companyspecific factors (such as earnings growth) all affect an active manager's decisions. Active investing often has higher costs than passive investing. These extra expenses can nullify any extra gains an active manager might earn.

## Enhanced Indexing Investment Strategy

Enhanced indexing investment strategy or enhanced indexing is a hybrid strategy that many of the large plans are using. The goal is to achieve a rate of return that is slightly higher than that of the index.

## Benchmark

A benchmark is an index to which the plan compares its investments. Market benchmarks are used by individual investors, portfolio managers, and market researchers to determine how a particular market or market sector performs. Investors look to broad indexes as benchmarks to help them gauge not only how well the markets are performing, but also how well they are performing as investors.

## Why Benchmarks are Important

Measuring investment returns against an appropriate benchmark encourages prudent investment decisions and gives trustees a fair depiction of how the plan's investments are performing.

The key to establishing the most accurate benchmark for a portfolio is determining which indices best track investments similar to the holdings in the portfolio. An ideal benchmark return would consist of a hypothetical portfolio of indices, invested in the same asset classes and in the same proportion as the actual holdings of the entire portfolio. Indices track different asset classes, such as domestic equity or bonds. An index may also track subsets of an asset class, such as small capitalization growth domestic equity. Although benchmark indices are not directly available for investment purposes, mutual and collective index funds can be obtained which hold the same securities as the index. Known as "index funds," these funds are managed with a passive style.

Figure 1: 2007 Rates of Return and Benchmark Return


## 2007 Performance Analysis

Overall, 2007 was a fairly stable year for investments, although several economic indicators signaled an economic downturn was on the horizon. As a whole, equity markets experienced steady growth throughout the year, reaching a peak early in the fourth quarter. A slight decline in the value of the equity markets followed to close out 2007. The U.S. unemployment rate increased slightly, reaching 5.0 percent by the end of the year. Production, as measured by Gross Domestic Product, increased by 4.8 percent in both the second and third quarters before posting a slight decrease in the fourth quarter. Corporate profits, which also started the year strong, decreased during the second half of 2007. Existing home sales, median home prices, and new home construction all decreased in 2007, signaling a beginning to the decline in the housing market. The economy was also significantly affected by the rising price of crude oil.

Domestic equities, as measured by the Russell 3000 Index, increased in value by 5.1 percent for the year. Index values peaked early in the fourth quarter of 2007 before moderating at the close of the year. The Russell 3000's 5.1 percent rate of return was its lowest return since 2002.

Domestic bonds returned 7.0 percent in 2007, as measured by the Lehman Brothers Aggregate Bond Index. The 2007 return is the highest yearly return posted by the index since 2002. The relatively strong performance of bonds indicates investors had a growing preference for more stable investments.

International equity, as measured by the Morgan Stanley Capital International (MSCI) All-Country World Index excluding the United States (ACWI ex. U.S.), returned 16.7 percent for 2007, the fifth consecutive year that international equity has produced doubledigit returns.

## Bloomington Fire Department Relief Association

The Bloomington Fire Department Relief Association returned 6.9 percent in 2007, as calculated by the Office of the State Auditor. Bloomington Fire exceeded its benchmark return of 6.0 percent, although the benchmark isn't reflective of the plan's current holdings because no allocation to international equities is included.

Bloomington Fire's investment policy allocates 70.0 percent to stocks and 30.0 percent to bonds. The plan's actual asset allocations for 2007 consisted of 52.7 percent domestic stock, 13.7 percent international stock, 32.6 percent bonds, and 1.0 percent cash. Updating its investment policy to include specific targets for domestic and international equities would allow for a more accurate benchmark to be calculated.

Bloomington Fire held 92.2 percent of its assets with the State Board of Investment (SBI) at the end of 2007. Nearly half of the plan's total assets are held in the SBI Common Stock Index Account, a Russell 3000 Index fund. The account performed as expected during the year, returning 5.1 percent. However, Bloomington Fire used a benchmark S\&P 500 Index return of 5.5 percent for its domestic equities. Updating the benchmark to the Russell 3000 Index would provide a better comparison in the future.

International equity invested through the SBI made up 11.3 percent of Bloomington Fire's total assets in 2007. The SBI International Share Account returned 17.2 percent in 2007. Fixed income investments held in the SBI Bond Market Account returned 6.4 percent in 2007, missing the plan’s benchmark Lehman Brothers Government/Credit Index return of 7.2 percent.

Bloomington Fire also holds investments in two internally-managed accounts. The smaller of the two accounts, holding 0.6 percent of the plan's total assets, returned 6.4 percent in 2007. This account is invested solely in short-term investments. The larger of the two accounts, holding 7.3 percent of the plan's total assets, has investments in individual stocks, bonds, and mutual funds. This internally-managed account is composed of 56.3 percent domestic equity, 32.6 percent international equity, 4.8 percent bonds, and 6.3 percent cash. The larger account returned just 3.7 percent in 2007.

## Duluth Teachers' Retirement Fund Association

The Duluth Teachers' Retirement Fund Association returned 6.6 percent in 2007, outperforming its benchmark return of 6.2 percent. Above-market returns in international equities and commodities contributed to the plan's successful return.

Duluth Teachers’ held just over half of its assets in domestic equities at the end of 2007. The domestic equity portfolio returned 2.6 percent for the year, compared to its benchmark U.S. Equity Custom Index return of 2.8 percent. The largest equity manager in this asset class is Met West, holding 27.7 percent of the plan's total assets. The Met West fund invests in large capitalization stocks through an enhanced S\&P 500 Index fund. The goal of this fund is to return one-half to one percent higher than the S\&P 500 Index. Met West returned just 2.4 percent in 2007, failing to reach the benchmark S\&P 500 Index return of 5.5 percent. The small capitalization growth portfolio, managed by Disciplined Growth Investors, held 13.1 percent of Duluth Teachers’ total assets at the end of 2007. This fund returned a mere 1.5 percent, compared to a 7.1 percent return from the Russell 2000 Growth Index benchmark. The domestic equity asset class was carried by a strong return from the small/mid capitalization portfolio managed by Wellington. The fund returned 4.0 percent in 2007, while its Russell 2500 Value Index benchmark return was in the red at negative 7.3 percent.

Nearly one-quarter of Duluth Teachers' total assets were invested in the plan's fixed income portfolio at the end of 2007. The fixed income investments were managed by

Western Asset, which returned 4.5 percent for the year. The fund was unable to reach its benchmark Lehman Brothers Aggregate Bond Index return of 7.0 percent.

Duluth Teachers' allocates 15.0 percent to international equities in its investment policy. The Julius Baer Group manages the plan's international investments, which comprised 16.5 percent of the plan's assets for the year. The fund had a strong showing in 2007 with an impressive 16.4 percent return, compared to a benchmark MSCI Europe, Asia, and Far East (EAFE) Index return of 11.2 percent. The Julius Baer fund may have exposure to emerging markets, however, which is not reflected by the MSCI EAFE Index.

Investments in commodities and real estate totaled 6.5 percent of Duluth Teachers' assets. At the beginning of the year, Duluth Teachers' held real assets accounts with two different managers, PIMCO and Wellington. In March of 2007, the PIMCO account was closed and over $\$ 8$ million in assets was transferred to the Wellington account. The Wellington account had a very strong showing for the year, returning 31.6 percent. A Dow Jones/AIG Commodities Index, which returned 16.2 percent, was the benchmark for the real assets accounts. Duluth Teachers' real estate investments made up 0.8 percent of the plan's total assets. These investments returned 14.8 percent for the year, which fell short of the National Council of Real Estate Investment Fiduciaries (NCREIF) Property Index return of 15.9 percent.

Duluth Teachers' began investing in private equity in late 2006 and invested an additional $\$ 2.5$ million into this asset class during 2007. Private equity consists of equity securities in operating companies that are not publicly traded on a stock exchange. About 1.5 percent of the plan's assets were invested in private equity at the end of the year, while the investment policy targets an allocation of 5.0 percent. The private equity account returned 14.7 percent in 2007.

## Minneapolis Employees Retirement Fund

The Minneapolis Employees Retirement Fund (MERF) returned 7.2 percent in 2007, below its benchmark return of 7.8 percent. The Deposit Accumulation Fund (DAF), which holds the remaining active members' assets, is not included in calculating MERF's asset allocations or total fund return. The DAF, which is invested in short-term investments, returned 1.3 percent in 2007.

MERF's domestic equity investments returned 5.0 percent in 2007, while its benchmark, the Russell 3000 Index, returned 5.1 percent. Nearly two-thirds of MERF's domestic equity assets are allocated to a Russell 3000 Index fund, managed by State Street Global Advisors. The fund performed as expected in 2007, returning 5.2 percent. MERF's PIMCO StocksPlus fund had a strong showing in 2007 by returning 6.6 percent, compared to its benchmark S\&P 500 Index return of 5.5 percent. The goal of the PIMCO fund is to outperform the S\&P 500 over time while adding little risk over that of the index. The domestic equity portfolio's return was adversely affected due to Private

Capital Management's underperformance in 2007. The fund returned negative 1.1 percent during the year. The fund targets an absolute positive return on an annual basis by identifying undervalued stocks. Although Private Capital has chosen not to assign a benchmark, the fund failed to reach market returns of the Russell 2500 and Russell 3000 Indices for 2007.

The fixed income portfolio returned 9.0 percent for MERF in 2007, missing its custom benchmark return of 10.1 percent. The fixed income benchmark allocates 66.7 percent to the Lehman Brothers TIPS Index and 33.3 percent to the Lehman Brothers Aggregate Bond Index. While MERF did not reach its custom benchmark in 2007, it had a higher fixed income return than all of the other large plans. Western Asset Management and PIMCO manage inflation-protected bond portfolios for MERF. Western returned 9.8 percent, while the PIMCO account returned 12.9 percent in 2007. Both funds are measured against the Lehman Brothers TIPS Index benchmark, which returned 11.6 percent. The Aberdeen Asset Management fund returned 5.0 percent in 2007, failing to reach its benchmark Lehman Brothers Aggregate Bond Index return of 7.0 percent.

MERF's international equity portfolio is indexed to the ACW ex. U.S. Investable Market Index. The fund, managed by State Street Global Advisors, performed as expected in 2007 with a return of 16.0 percent. MERF also holds a global equity fund managed by Capital Guardian. The fund returned 11.2 percent in 2007, just missing the 11.7 percent benchmark return of the MSCI ACW Index.

Adelante Capital Management manages a real estate investment trust portfolio for MERF. The portfolio includes a broad range of investments such as retail, industrial and office properties, and residential buildings. The real estate fund experienced a rough year in 2007, returning a negative 17.0 percent, although it beat the Wilshire REIT Index benchmark return of negative 17.6 percent return.

## Minneapolis Firefighters' Relief Association

The Minneapolis Firefighters’ Relief Association returned 11.5 percent in 2007, as calculated by the Office of the State Auditor, exceeding its benchmark return of 7.5 percent. Minneapolis Fire used the same indices in its 2007 benchmark as it did in 2006. Overall, between 2006 and 2007, Minneapolis Fire increased its domestic equity and bond allocations at the expense of international equity and cash.

The plan experienced significant asset growth from its Ivy Global Natural Resources and Leuthold Weeden balanced funds, returning 42.6 and 19.0 percent, respectively. These accounts exceeded returns of the plan's other balanced funds by a wide margin. Minneapolis Fire’s account with Voyageur Asset Management was closed in early 2007 after two consecutive years of below average returns. The plan also closed its account with Alliance Bernstein in 2007. The remaining balanced funds all had comparable rates of return ranging from 5.5 percent (FAF Advisors) to 6.3 percent (Mairs \& Power).

International equity was a key contributor to the overall return of the plan during 2007, returning 15.5 percent. International equity makes up about one-quarter of the plan's assets and has posted double-digit returns the past two years. International equity is comprised of funds managed by Manning \& Napier and Dodge \& Cox, which returned 16.5 and 14.2 percent, respectively. A portion of the Ivy Global fund is also invested internationally. The benchmark rate of return used for international equities, the MSCI EAFE Index, returned 11.2 percent in 2007. Minneapolis Fire’s investment policy should be updated to provide an accurate allocation of international equity investments, given its current investment position in that particular asset class.

Minneapolis Fire had fixed income investments with PIMCO, RiverSource, and the SBI. Fixed income returned 6.3 percent in 2007, falling short of its Lehman Brothers Aggregate Bond Index benchmark of 7.0 percent. It should be noted that the plan transferred significant assets to fixed income during 2007, a year after drawing down the asset class's balance by nearly one-half. The account managed by PIMCO was closed during 2007, having been open for less than two years.

Domestic equity returned 5.2 percent for 2007 compared to the S\&P 500 Index return of 5.5 percent. Returns varied among the three domestic equity managers, ranging from 0.6 percent for White Pine Capital to 9.7 percent for Marque Millennium. White Pine manages a small capitalization growth portfolio, which fell well short of its Russell 2000 Growth Index benchmark return of 7.1 percent. Marque Millennium manages a large capitalization value portfolio, which exceeded by a wide margin the negative 0.2 percent rate of return of its benchmark, the Russell 1000 Value Index. The plan's third domestic equity account, the SBI Common Stock Index Account, equaled the overall domestic equity return of 5.2 percent and just beat the Russell 3000 Index benchmark return of 5.1 percent.

## Minneapolis Police Relief Association

The Minneapolis Police Relief Association returned 6.9 percent in 2007, as calculated by the Office of the State Auditor, which fell short of its benchmark return of 8.2 percent. Below-market returns in domestic equities, international equities, and fixed income investments all contributed to the plan's low return.

Domestic equities returned just 3.8 percent in 2007 for Minneapolis Police, while the Wilshire 5000 Index provided a benchmark return of 5.6 percent for the asset class. The primary component of this asset class is the SBI Common Stock Index Account, holding 86.9 percent of the domestic equity assets at the end of the year. The SBI account is a Russell 3000 Index fund which performed as expected during 2007, returning 5.1 percent. Minneapolis Police's other domestic equity investments are managed by Grantham, Mayo, Van Otterloo. This fund significantly underperformed in 2007, returning a negative 4.6 percent compared to its benchmark return of positive 5.6 percent.

Minneapolis Police’s fixed income investments returned 6.0 percent in 2007, falling short of the 7.0 percent return of the Lehman Brothers Aggregate Bond Index benchmark. The plan invested 42.3 percent of its fixed income portfolio in the SBI Bond Market Account, which returned 6.3 percent in 2007. Another of the plan's fixed income managers, Galliard Capital Management, nearly reached its benchmark by providing a return of 6.9 percent. Minneapolis Police's two other fixed income accounts hold investments in highyield bonds, which are not tracked by the Lehman Brothers Aggregate Bond Index. These two accounts, Loomis Sayles and Western, had vastly different returns in 2007. Loomis Sayles had a strong return of 10.0 percent for the year, while Western offset much of that success by returning just 2.5 percent.

Minneapolis Police's international equities returned 14.4 percent in 2007, which fell below the benchmark MSCI ACW Index ex. U.S. return of 16.7 percent. The SBI International Share Account had a strong performance during 2007, returning 17.7 percent. The Mercator account did not live up to expectations however, as it returned just 8.8 percent compared to its 11.2 percent MSCI EAFE Index benchmark.

Minneapolis Police also held global investments with two account managers in 2007. The New Perspective Fund, held by Capital Research and Management, performed well with a return of 16.5 percent, exceeding the 11.7 percent benchmark return set by the MSCI ACW Index. The Mellon Global Alpha Fund I struggled in 2007, returning just 1.4 percent. The fund was far from reaching its custom benchmark return of 7.9 percent, which is comprised of 60.0 percent from the MSCI World Index and 40.0 percent from the Citigroup World Government Bond Index.

Prudential PRISA, a real estate account, was funded by Minneapolis Police late in 2006. An additional $\$ 5.6$ million was invested in the account during 2007. The fund accounted for 2.1 percent of Minneapolis Police's total assets at the end of the year. The Prudential PRISA account returned 11.9 percent for its first full year in the plan's portfolio. The fund failed to reach the 14.8 percent benchmark NCREIF Open-End Diversified Core return.

## St. Paul Teachers' Retirement Fund Association

The St. Paul Teachers’ Retirement Fund Association returned 8.1 percent in 2007, as calculated by the Office of the State Auditor, below its benchmark return of 9.2 percent. Investments in fixed income, international equities and real estate, which fell short of their respective benchmarks, contributed to the below benchmark rate of return for the total fund. St. Paul Teachers' slightly decreased its domestic equity and real estate allocations from 2006, allocating more toward fixed income investments. Overall, the plan's allocation remains in line with its investment policy.

Domestic equity for St. Paul Teachers’ returned 6.2 percent in 2007, slightly above the S\&P 500 Index return of 5.5 percent. In 2007, nearly all of the plan's domestic equity money managers met or exceeded their respective benchmarks. The large capitalization
indexed portfolio, which makes up 40.3 percent of the plan's domestic equity holdings, matched its 5.5 percent S\&P 500 Index rate of return. St. Paul Teachers’ activelymanaged large capitalization portfolios, Barrow \& Hanley and Fifth Third Asset Management, each considerably outperformed their benchmarks. Barrow \& Hanley returned 4.1 percent compared to its Russell 1000 Value Index return of negative 0.2 percent, while Fifth Third's return of 17.1 percent exceeded its benchmark by 5.7 percent. St. Paul Teachers' mid capitalization funds had comparable returns to the market in 2007. The Wellington Management Fund, which returned 8.7 percent, outperformed its benchmark by 3.1 percent. Small capitalization domestic equity as a whole performed poorly in 2007, as illustrated by the Russell 2000 Index return of negative 1.6 percent. Of the plan's small capitalization domestic equity accounts, only Boston Company managed a positive rate of return in 2007, coming in at 5.0 percent.

St. Paul Teachers' international equity returned 11.0 percent in 2007. The developed markets managed funds fell short of the MSCI EAFE Index benchmark return of 11.2 percent. JP Morgan's EAFE Plus returned 10.0 percent and Morgan Stanley returned 9.9 percent. These two funds make up 81.5 percent of the plan's international equity holdings. The remainder of St. Paul Teachers' international equity portfolio is invested in Capital International's Emerging Market Fund. Capital International returned 38.6 percent in 2007, just below its benchmark MSCI Emerging Markets Index of 39.8 percent.

Fixed income for St. Paul Teachers' performed below the Lehman Brothers Government/Credit Index benchmark of 7.2 percent, returning 6.7 percent. The indexed portion of the fixed income portfolio returned 7.3 percent, slightly exceeding its benchmark. The Voyageur actively managed portion of the portfolio returned 6.0 percent, trailing its 7.0 percent benchmark return. St. Paul Teachers' fixed income portfolio is evenly split between passive (index) and active management.

St. Paul Teachers' real estate portfolio returned 8.1 percent, falling well short of the NCREIF Property Index return of 15.9 percent. UBS, which manages 85.2 percent of the plan's real estate holdings, returned 12.7 percent in 2007. The rest of the holdings are managed by Advantus, which posted a return of negative 15.7 percent.

Alternative investments, managed by RWI private equity, returned 38.6 percent, as calculated by the Office of the State Auditor. These investments are illiquid, and as such, are difficult to value and typically have no benchmark.

St. Paul Teachers’ cash portfolio returned a negative 2.0 percent in 2007. The return is affected by an enhanced cash account, which overlays equity returns on cash. Some of the cash portfolio return is also impacted by securities lending income, which is included in the rate of return.

## State Board of Investment

The State Board of Investment (SBI)'s Basic Fund returned 9.7 percent in 2007, while the Post Fund returned 9.2 percent. Both funds just missed their benchmarks, which were 9.9 percent and 9.4 percent, respectively. The Basic Fund holds assets for the active members of the three state-wide retirement systems (MSRS, PERA, and TRA). The Post Fund holds assets for the retired members of these three systems. The differing returns for the Basic and Post Fund result from differing asset allocations: the Basic Fund has a higher allocation to alternative assets than the Post Fund, with less assets being allocated to bonds and cash. The assets of both funds are invested together in a combined fund, which is the basis for the investment performance discussion provided in this section.

The SBI’s domestic equity portfolio returned 4.9 percent in 2007. The portfolio did not reach the benchmark Russell 3000 Index return of 5.1 percent. The actively-managed portion, holding 29.6 percent of the portfolio's assets, outperformed the market in 2007. The aggregate return for active managers was 6.3 percent, exceeding their custom benchmark return of 4.2 percent. The passively-managed portion, tracking the Russell 3000 Index, accounts for 34.9 percent of the domestic equity portfolio. The fund performed as expected in 2007, returning 5.1 percent. The portfolio’s underperformance was a result of below-market returns from the semi-passively managed segment. The semi-passive investments returned just 3.2 percent, well below the benchmark Russell 1000 Index return of 5.8 percent. The three semi-passive managers held 35.5 percent of the portfolio's assets at the end of 2007.

The bond portfolio of the SBI returned 6.3 percent for the year, falling short of the 7.0 percent benchmark return of the Lehman Brothers Aggregate Bond Index. None of the eight individual bond managers were able to provide a return that exceeded the benchmark, with only the Goldman Sachs Asset Management fund staying on par with the 7.0 percent return. The semi-passive bond managers returned 6.7 percent, whereas the actively managed portion returned just 5.8 percent in 2007.

The SBI's international equity portfolio returned 17.1 percent in 2007, exceeding its benchmark MSCI ACW Index ex. U.S. Index return of 16.9 percent. Above-market returns from active managers contributed to the portfolio's success. Active developed market managers returned 13.0 percent in 2007 , exceeding the 12.6 percent custom benchmark return. Active emerging market managers returned 40.0 percent for the year, just topping the 39.9 percent benchmark. Nineteen percent of the international equity portfolio is invested in active emerging market funds. The semi-passive developed managers returned 12.1 percent, while the passive developed manager returned 12.9 percent. Both were measured against a custom benchmark of 12.6 percent.

The SBI's alternative investments had a strong showing again in 2007, returning 29.5 percent. The actual rate of return is used as the benchmark for this asset class. The majority of the alternative investments portfolio is allocated to private equity, with the rest held in yield-oriented investments, resource investments, and real estate.

Figure 2: 2007 Rates of Return


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## Funding Ratios

Funding ratios show the relationship between a plan's assets and its liabilities. An actuary uses statutory assumptions based on historical data to calculate the plan's liability. Examining the ratio between assets and liabilities can help determine how wellfunded the plan is, whether additional contributions to the plan will be needed, and whether future benefit increases can be afforded. Investment returns, contributions, actuarial assumptions, plan provisions, and historical funding issues can all have a direct influence on the financial health of a plan.

Although Bloomington Fire’s funding ratio dropped by 3.0 percent in 2007, the plan still had the highest funding ratio of the large plans, at 130.9 percent. Bloomington Fire has been the only fully-funded large plan since 2002.

During 2007, Duluth Teachers' experienced a 2.7 percent increase in its funding ratio. The plan is now 86.8 percent funded. It was fully funded back in 2002.

MERF experienced a significant drop in its funding level during the year. The plan's funding ratio had held steady at 92.0 percent for the previous five years, before closing 2007 at just 86.0 percent funded. MERF's 2007 actuarial accrued unfunded liability exceeded the 2006 liability amount by nearly $\$ 100$ million.

Minneapolis Fire saw the largest increase in its funding ratio from the previous year. The 5.3 percent increase in the funding ratio in 2007 improved the plan's funding level to 92.8 percent. Minneapolis Fire's unfunded liability decreased by 44.3 percent from 2006 to 2007.

Minneapolis Police improved its funding ratio to 87.9 percent for 2007 . The plan's funding ratio has risen over each of the past four years, after its funding ratio dipped to just 64.5 percent in 2003.

St. Paul Teachers' remains the lowest-funded of the large plans, although the plan did see a 3.9 percent increase in its funding ratio in 2007, to 73.0 percent. The increased funding level ended a five-year span of steady decline to the plan's funding ratio.

Figure 3: Fiscal Year 2007 Funded Ratio Percentage


## Administrative Expenses

Pension plans are permitted by state law to pay certain administrative expenses. These expenses include items such as staff salaries, legal fees, professional services (including audit and actuarial fees), and other expenses such as travel, postage, and printing. These administrative expenses affect funding ratios and contribution rates since they come directly out of the pension plan's assets. It is important to limit expenses to those that are necessary and reasonable, while still maintaining a well-managed pension plan.

St. Paul Teachers' had the highest total administrative expenses of the large plans in 2007, at $\$ 695,700$. The plan experienced a 17.7 percent increase from its 2006 expense total. However, having more members than any of the other plans, St. Paul Teachers' had the lowest total administrative expenses on a per-member basis at just $\$ 70$.

Bloomington Fire had the lowest total administrative expenses, at $\$ 74,683$. Duluth Teachers' also kept its expenses low with a total of $\$ 456,987$ for the year. On a permember basis, however, these plans spent $\$ 242$ and $\$ 135$, respectively. MERF had the highest total expenses in 2006, but was able to lower its administrative expenses by 16.1 percent from 2006 to 2007. MERF's 2007 expenses totaled $\$ 665,281$, or just $\$ 128$ per member.

Minneapolis Police and Minneapolis Fire both lowered their total administrative expenses from 2006. Minneapolis Police’s administrative expenses declined by 13.6 percent in 2007, to $\$ 529,561$, while Minneapolis Fire's administrative expenses were reduced by
0.8 percent, to $\$ 581,704$. Both of these plans are closed to new members and their total membership is slowly declining. Therefore, administrative expenses are continually allocated to fewer members each year. Minneapolis Police was able to lower its administrative expenses for 2007 to $\$ 606$ per member. Minneapolis Fire experienced an increase to $\$ 957$ per member, the highest per-member administrative expense amount of the large plans.

Figure 4: Administrative Expenses per Member (2003-2007)


Legal fees, one type of administrative expense, were significantly higher for Minneapolis Fire, Minneapolis Police, and St. Paul Teachers’ than for the other large plans. Legal fee expenses accounted for 24.6 percent of Minneapolis Fire's total administrative expenses and 26.2 percent of Minneapolis Police's total expenses. St. Paul Teachers' saw a sharp increase in legal fee expenses. The plan's legal fees were over three times higher in 2007 than in 2006.

Figure 5: Legal Fees (2003-2007)

Figure 6
Administrative Expenses for Fiscal Year 2007




## Ten-Year Performance Analysis

The ten-year period beginning in January of 1998 and ending in December of 2007 began on the tail end of a market boom and ended just prior to a major economic downturn. The U.S. stock market has seen a wide range of returns over this period, illustrating its volatile nature. Yearly returns during this ten-year period were as high as 31.1 percent and as low as negative 21.5 percent. This particular ten-year period allows us to gauge the long-term performance of Minnesota's large plans over a wide range of economic conditions.

The rates of return available to Minnesota's large plans over the ten-year period can be illustrated through the use of indices as benchmarks. The overall U.S. stock market average annual return over the ten-year period was 6.2 percent as measured by the Russell 3000 Index. This benchmark provides a comprehensive measure of the overall U.S. equity market. Domestic equity represents the largest asset allocation for all of the large plans, ranging from 37.7 percent (MERF) to 52.7 percent (Bloomington Fire). The average annual bond market return was 6.0 percent, as measured by the Lehman Brothers Aggregate Bond Index. Fixed income allocations ranged from 20.4 percent (St. Paul Teachers') to 32.6 percent (Bloomington Fire). International equity, as measured by the MSCI EAFE Index, averaged a 6.6 percent annual rate of return over the ten-year period. Emerging markets averaged 11.7 percent. International equity allocations ranged from 13.7 percent (Bloomington Fire) to 26.7 percent (St. Paul Teachers'). These benchmark rates of return provide perspective on the returns that were available to Minnesota's large plans over the past ten years.

An example of a return that was available over the ten-year period is the State Board of Investment (SBI)'s Income Share Account. The target asset allocations for this fund are 60.0 percent domestic equities, 35.0 percent bonds, and 5.0 percent cash. The stock component of this fund is indexed to the Russell 3000 Index and the bond portion is actively managed and includes corporate bonds, mortgage securities, and governmentissued bonds. The Income Share Account represents a balanced fund and over time is expected to average higher returns than a fixed income or money market account. The Income Share Account's average annual rate of return for the ten-year period was 6.2 percent.

Returns available from capital markets and the balanced fund (SBI Income Share Account) provide a standard against which we can assess the performance of Minnesota's large plans over the past ten years. Overall, the performance of the large plans has been mixed over the ten-year period. All but one plan matched or exceeded the Income Share Account ten-year rate of return. However, the SBI and three out of the six large plans failed to meet their actuarial assumed rates of return.

## Bloomington Fire Department Relief Association

The Bloomington Fire Department Relief Association returned 4.9 percent over the tenyear period. This is the lowest ten-year return of the large plans. Based on the plan's asset allocation over this span, Bloomington Fire appeared to take on risky investments which did not pay off. The plan has recently invested more of its assets with the State Board of Investment, which should help Bloomington Fire keep pace with the returns of the market.

## Duluth Teachers' Retirement Fund Association

The Duluth Teachers’ Retirement Fund Association’s ten-year return was 8.4 percent, which tied for the highest return among the large plans. The plan has benefited from solid returns in all of its asset classes. Successful sector selection and active management in equities, along with strong performance in fixed income investments may have allowed Duluth Teachers' to exceed overall market returns.

## Minneapolis Employees Retirement Fund

The Minneapolis Employees Retirement Fund (MERF) returned 7.4 percent over the past ten years. Sustaining above-market returns in the plan's fixed income investments has assisted the fund's performance. Although real estate performed poorly for MERF in 2007, the plan's real estate investment with Adelante Capital has helped add value over the past ten years.

## Minneapolis Firefighters' Relief Association

The Minneapolis Firefighters' Relief Association returned 7.9 percent over the ten-year period. The plan had some of the better returns for large plans from 1998 to 2002. As the overall market recovered in the following years, the other large plans’ returns outperformed those of Minneapolis Fire. The plan had the lowest return of the large plans in 2006, but recovered in 2007 with the highest return at 11.5 percent.

## Minneapolis Police Relief Association

The Minneapolis Police Relief Association returned 6.2 percent over the past ten years. Minneapolis Police experienced investment manager turnover during the earlier part of the ten-year period. The plan's investment returns were unable to keep pace with other larger plans during that span. Allocating additional assets with the State Board of Investment appears to have contributed to Minneapolis Police’s more competitive returns over the past few years.

## St. Paul Teachers' Retirement Fund Association

The St. Paul Teachers’ Retirement Fund Association tied for the highest ten-year return among the large plans, at 8.4 percent. Excellent returns from domestic equity investments triggered the plan's strong performance. St. Paul Teachers' has thrived on sector selection and active management within its diversified portfolio.

## State Board of Investment

The State Board of Investment (SBI)'s Basic Fund returned 7.7 percent over the ten-year period, and the Post Fund returned 7.5 percent. Fixed income and alternative asset investments have performed well for the SBI during this time period. Differing asset allocations of the Basic and Post Fund resulted in their differing returns. The Basic Fund had a higher allocation to alternative assets than the Post Fund. The strong returns from alternative assets have contributed to the higher overall return of the Basic Fund.

Figure 7: Ten-Year Average Annual Rates of Return (1998-2007)


## Why Rates of Return Matter

What may seem like small differences in rates of return can make large differences in actual dollars. To put the returns into context, consider $\$ 100$ invested at 8.4 percent (the highest large plan return) for ten years. At the end of ten years, you would have $\$ 224$. If you instead only earned 4.9 percent (the lowest large plan return), you would have $\$ 161$ at the end of ten years. The higher rate of return yields 39.1 percent more in actual dollars. If plan provisions are set up optimally, high rates of return could allow for lower contributions and possible benefit increases. Although the growth won't be as steady as illustrated in the example below, the result will be the same.

Figure 8: Ten-Year Growth of $\mathbf{\$ 1 0 0}$ at Differing Rates of Return


2007 Plan Summaries

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## How to Read the Plan Summaries

The plan summaries found on pages 29 through 36 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 for 2007, as calculated by the Office of the State Auditor. Under state law, the Duluth Teachers' Retirement Fund Association, Minneapolis Employees Retirement Fund, and the State Board of Investment are allowed to submit more limited reporting information. The rates of return for these three plans are provided by the plans and are not re-calculated by the Office of the State Auditor.
- Plan One-Year ROR - The pension plan's return on its assets for 2007, 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 had it invested passively.
- 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 Office of the State Auditor or reported by the plan.


## Asset Class

Groups of different types of 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

These 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.

## Policy Asset Allocation

Each plan has an investment policy that states how the plan's assets are to be invested across different asset classes. The percentage allocated to each asset class in the investment policy is the policy asset allocation.

## Actual Asset Allocation

The percentage actually invested in each asset class as of the end of the year is the actual asset allocation. Since investments increase and decrease at different rates, plans rebalance their portfolios by transferring assets among investments during the year.

## Beginning Market Value/Ending Market Value

The dollar amount in the asset class or investment as of the beginning/end of 2007 is the beginning market value/ending market value. The market value is the price as determined by buyers and sellers in an open market.

## 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

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

## Rate of Return

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

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Bloomington Fire Department Relief Association
For the Year Ended December 31, 2007
(Dolars in Thousands)

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$$
\begin{aligned}
& \text { Investment Type } \\
& \hline \text { Domestic Equities } \\
& \text { International Equities } \\
& \text { Fixed Income } \\
& \text { Cash } \\
& \text { Balanced } \\
& \text { Balanced } \\
& \text { Total }
\end{aligned}
$$

$$
\begin{aligned}
& \text { Asset Class } \\
& \hline \text { Domestic Equities } \\
& \text { International Equities } \\
& \text { Fixed Income } \\
& \text { Cash } \\
& \text { Internally Managed } \\
& \text { New Internally Managed }
\end{aligned}
$$

| Rates of Return (ROR) |  |
| :--- | ---: |
|  |  |
|  |  |
| Plan One-Year ROR | $6.6 \%$ |
| Benchmark ROR | $6.2 \%$ |
| Actuarial Assumed ROR - Active | $8.5 \%$ |
| Actuarial Assumed ROR - Retired | $8.5 \%$ |
| Plan Three-Year ROR | $9.6 \%$ |
| Plan Five-Year ROR | $13.3 \%$ |
| Plan Ten-Year ROR | $8.4 \%$ |

Duluth Teachers' Retirement Fund Association
For the Year Ended December 31, 2007
(Dolalas in Thousands)
${ }^{1}$ Period ending adjustment made to the December 31, 2006 market value.

| $\begin{array}{r}\text { Rate of } \\ \text { Return }\end{array}$ |
| ---: |
| 5.0 \% |
| $9.0 \%$ |
| $16.0 \%$ |
| $11.2 \%$ |
| $(17.0) \%$ |
| $8.6 \%$ |
| $1.3 \%$ |


| Ending <br> Market Value |  |
| ---: | ---: |
| $\$ \quad 506,712$ |  |
| 423,029 |  |
| 204,105 |  |
| 135,446 |  |
| 62,108 |  |
| 13,701 |  |
|  | 6,501 |
| $\$ \mathbf{1 , 3 5 1 , 6 0 2}$ |  |

[^1]| $\begin{array}{c}\text { Investment } \\ \text { Return }\end{array}$ |  |
| :---: | ---: |
| $\$$ | 27,948 |
|  | 34,896 |
| 31,488 |  |
|  | 14,610 |
|  | $(12,561)$ |
|  | 427 |
|  | 298 |
| $\$$ | $\mathbf{9 7 , 1 0 6}$ |





| $\begin{array}{c}\text { Net Cash Flow } \\ \text { (Net of Fees) }\end{array}$ |  |
| :---: | ---: |
| $\$$ | $(90,619)$ |
|  | 34,444 |
| $(46,939)$ |  |
| $(8,262)$ |  |
| 8,382 |  |
|  | $(958)$ |
|  | $(27,998)$ |
| $\$$ | $(\mathbf{1 3 1 , 9 5 0})$ |



Toal


Total

## Minneapolis Employees Retirement Fund For the Year Ended December 31, 2007




| Rates of Return (ROR) |  |
| :--- | ---: |
|  |  |
| Plan One-Year ROR | $7.2 \%$ |
| Benchmark ROR | $7.8 \%$ |
| Actuarial Assumed ROR - Active | $6.0 \%$ |
| Actuarial Assumed ROR - Retired | $5.0 \%$ |
| Plan Three-Year ROR | $9.8 \%$ |
| Plan Five-Year ROR | $13.3 \%$ |
| Plan Ten-Year ROR | $7.4 \%$ |



| Rates of Return (ROR) |  |
| :--- | ---: |
|  |  |
| OSA One-Year ROR |  |
| Plan One-Year ROR | $11.5 \%$ |
| Benchmark ROR | $11.5 \%$ |
| Actuarial Assumed ROR - Active | $6.0 \%^{1}$ |
| Actuarial Assumed ROR - Retired | $6.0 \%$ |
| OSA Three-Year ROR | $10.2 \%$ |
| OSA Five-Year ROR | $12.0 \%$ |
| OSA Ten-Year ROR | $7.9 \%$ |



For the Year Ended December 31, 2007
(Dollars in Thousands)
Benchmark Components DJ-AIG Commodities 16.2 \%
Minneapolis Firefighters' Relief Association

Rate of
Return



| Investment <br> Return |  |
| :---: | ---: |
| $\$$ | 2,918 |
|  | 1,970 |
|  | 7,596 |
|  | 52 |
|  | 677 |
|  | 1,464 |
|  | 5,408 |
|  | 7,268 |
|  | 1,933 |
|  | 379 |
|  | 11 |
|  | 123 |
| $\$$ | $\mathbf{2 9 , 7 9 9}$ |

${ }^{1}$ The benchmark rate of return consists of $40 \%$ allocated to S\&P 500, 35\% Lehman Bros. Aggregate, 5\% Russell 2000 Growth, 15\% MSCI EAFE, 5\% Dow Jones AIG Commodities. ${ }^{2}$ Period ending adjustment made to the December 31, 2006 market value for the Manning and Napier account. ${ }^{3}$ Period ending adjustment made to the December 31, 2006 market value.

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$$
\begin{aligned}
& \text { Minneapolis Police Relief Association } \\
& \text { For the Year Ended December 31, } 2007 \\
& \text { (Dollars in Thousands) }
\end{aligned}
$$




| Beginning <br> Market Value |  |
| ---: | ---: |
| $\$ \quad 155,045$ |  |
| 115,256 |  |
| 52,867 |  |
| 44,472 |  |
| 19,316 |  |
|  | 1,875 |
|  | 1,504 |
|  | 506 |
|  | 2,768 |
| $\$ \quad 393,609$ |  |


${ }^{1}$ The Mellon Custom Benchmark is weighted $60 \%$ MSCI World Index and $40 \%$ Citigroup World Government Bond Index.
St. Paul Teachers' Retirement Fund Association
For the Year Ended December 31, 2007
(Dollars in Thousands)

| Investment <br> Return |  |
| :--- | ---: |
| $\$$ | 30,198 |
|  | 14,127 |
|  | 7,656 |
|  | 31,301 |
|  | 3,666 |
|  | $(187)$ |
| $\$$ | $\mathbf{8 6 , 7 6 1}$ |



| $\begin{array}{c}\text { Net Cash Flow } \\ \text { (Net of Fees) }\end{array}$ |  |
| :---: | ---: |
| $\$$ | $(35,813)$ |
|  | 20,006 |
|  | $(17,100)$ |
|  | $(13,000)$ |
|  | $(457)$ |
|  | 3,023 |
| $\$$ | $\mathbf{( 4 3 , 3 4 1 )}$ |

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The December 31, 2006 market values for Alternative Assets and Cash were adjusted by $\$ 140,000$.

## State Board of Investment - Basic Fund For the Year Ended December 31, 2007 (Dollars in Thousands)

| Policy |  |
| :--- | ---: |
| Asset Allocation |  |
| Domestic Equities | $45.0 \%$ |
| Bonds | $24.0 \%$ |
| International Equities | $15.0 \%$ |
| Alternative Assets | $15.0 \%$ |
| Cash | $1.0 \%$ |





| Net Cash Flow <br> (Net of Fees) |  |
| :---: | :---: |
| $\$ \quad(691,541)$ |  |
|  | 634,590 |
|  | $(552,155)$ |
|  | $(74,668)$ |
|  | 23,115 |
|  | 314 |
| $\$$ | $\mathbf{( 6 6 0 , 3 4 5 )}$ |



| $\begin{array}{r}\text { Rate of } \\ \text { Return }\end{array}$ |
| ---: |
| $4.9 \%$ |
| $6.3 \%$ |
| $17.1 \%$ |
| $29.5 \%$ |
| $5.2 \%$ |
| $0.0 \%$ |




This component incorporates the return of the Provisional Standard MSCI ACWI ex. U.S. index since 10/1/07. ${ }^{2}$ The actual rate of return is used as the benchmark for Alternative Assets.


| Investment <br> Return |  |
| :--- | ---: |
| $\$$ | 567,783 |
|  | 382,035 |
|  | 614,626 |
|  | 548,890 |
|  | 27,507 |
|  | $(1,420)$ |
| $\$$ | $\mathbf{2 , 1 3 9 , 4 2 1}$ |

## State Board of Investment - Post Fund <br> For the Year Ended December 31, 2007 <br> (Dollars in Thousands)

$=$



| Actual <br> Asset Allocation |  |
| :--- | ---: |
| Domestic Equities | $47.2 \%$ |
| Bonds | $26.1 \%$ |
| International Equities | $15.9 \%$ |
| Alternative Assets | $9.8 \%$ |
| Cash | $1.0 \%$ |

 | $\begin{array}{c}\text { Beginning } \\ \text { Market Value }\end{array}$ |  |
| :---: | ---: |
| $\$$ | $11,843,921$ |
|  | $5,539,971$ |
| $3,959,977$ |  |
|  | $1,960,404$ |
|  | 429,322 |
|  | 0 |
| $\$$ | $\mathbf{2 3 , 7 3 3 , 5 9 5}$ |

The Actuarial Assumed Rate of return is comprised of a statutory $6.0 \%$ plus a guaranteed CPI-based COLA capped at $2.5 \%$. This component incorporates the return of the Provisional Standard MSCI ACWI ex. U.S. index since 10/1/07.
${ }^{3}$ The actual rate of return is used as the benchmark for Alternative Assets.

## 2007 Appendix

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Table 1
Historical Rates of Return
For Calendar Years 1998 to 2007




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* The Minneapolis Teachers' Retirement Fund Association was rolled into the Teachers' Retirement Association in 2006.
Table 2

| Public Pension Plans |
| :--- |
| Bloomington Fire $(12 / 31)$ |
| Duluth Teachers' $(6 / 30)$ |
| MERF $(6 / 30)$ |
| Minneapolis Fire $(12 / 31)$ |
| Minneapolis Police $(12 / 31)$ |
| Minneapolis Teachers' $(6 / 30)$ |
| St. Paul Teachers' $(6 / 30)$ |
| Total |

* The Minneapolis Teachers' Retirement Fund Association was rolled into the Teachers' Retirement Association in 2006.
Table 3
Employer Contributions
For Fiscal Years 1999 to 2007

| 2007 |  |
| :---: | :---: |
| $\$$ | - |
|  | $2,940,697$ |
|  | $19,545,176$ |
|  | $3,030,347$ |
|  | $3,647,229$ |
|  | $*$ |
|  | $20,466,200$ |
| $\$$ | $\mathbf{4 9 , 6 2 9 , 6 4 9}$ |





 | $\mathbf{2 0 0 2}$ |  |
| ---: | ---: |
| $\$$ | - |
|  | $2,955,816$ |
| $12,260,956$ |  |
|  | 5,907 |
|  | $2,912,060$ |
| $25,696,261$ |  |
| $20,958,423$ |  |
| $\$ \mathbf{6 4 , 7 8 9 , 4 2 3}$ |  |

 Duluth Teachers' (6/30) MERF (6/30)

 | $\mathbf{1 9 9 9}$ |  |
| :--- | ---: |
| $\$ \quad 1$ | - |
|  | $3,020,978$ |
|  | $14,722,996$ |
|  | 720,376 |
|  | 698,080 |
|  | $23,357,250$ |
|  | $17,514,764$ |
| $\$ \mathbf{6 0 , 0 3 4 , 4 4 4}$ |  |

Table 4
$\frac{\text { Public Pension Plans }}{\text { Bloomington Fire (12/31) }}$

| Public Pension Plans |
| :--- |
| Bloomington Fire (12/31) |
| Duluth Teachers' (6/30) | MERF (6/30)

Minneapolis Fire (12/31) Minneapolis Police (12/31) Minneapolis Teachers' (6/30) St. Paul Teachers' (6/30)

* The Minneapolis Teachers' Retirement Fund Association was rolled into the Teachers' Retirement Association in 2006.
Table 5

[^2]Table 6




 Bloomington Fire (12/31)
Duluth Teachers' (6/30)
MERF $(6 / 30)$
Minneapolis Fire $(12 / 31)$
Minneapolis Police $(12 / 31)$
Minneapolis Teachers' $(6 / 30)$
St. Paul Teachers' $(6 / 30)$
Note: Beneficiaries include retirees, disabled members and surviving spouses.

* The Minneapolis Teachers' Retirement Fund Association was rolled into the Teachers' Retirement Association in 2006.
Table 7
Percent Increase in Average of Total Benefits per Retired Member/Beneficiary
and The Consumer Price Index
For Fiscal Years 1999 to 2007




| Public Pension Plans |
| :--- |
| Consumer Price Index |
| Bloomington Fire $(12 / 31)$ |
| Duluth Teachers' $(6 / 30)$ |
| MERF $(6 / 30)$ |
| Minneapolis Fire $(12 / 31)$ |
| Minneapolis Police $(12 / 31)$ |
| Minneapolis Teachers' $(6 / 30)$ |
| St. Paul Teachers' $(6 / 30)$ |

Note: Beneficiaries include retirees, disabled members and surviving spouses.

* The Minneapolis Teachers' Retirement Fund Association was rolled into the Teachers' Retirement Association in 2006.


## Table 8

Funded Ratio Percentage

For Fiscal Years 1999 to 2007 | 2005 |
| ---: |
| $124.16 \%$ |
| $86.40 \%$ |
| $92.00 \%$ |
| $86.20 \%$ |
| $77.30 \%$ |
| $44.61 \%$ |
| $69.65 \%$ |






Note: The funded ratio is calculated by dividing the actuarial value of plan assets by the actuarial accrued liability.

* The Minneapolis Teachers' Retirement Fund Association was rolled into the Teachers' Retirement Association in 2006.
Table 9

\left.|  | Actuarial Accrued Unfunded Liability |  |  |
| :--- | :--- | :--- | :--- |
| For Fiscal Years 1999 to 2007 |  |  |  |$\right)$




* The Minneapolis Teachers' Retirement Fund Association was rolled into the Teachers' Retirement Association in 2006.
Note: These Net Assets only include any net assets that are "Held in Trust for Pension Benefits."
Net Assets Held in Trust for

$$
\begin{aligned}
& \text { Public Pension Plans } \\
& \hline \text { Bloomington Fire }(12 / 31) \\
& \text { Duluth Teachers' }(6 / 30) \\
& \text { MERF }(6 / 30) \\
& \text { Minneapolis Fire }(12 / 31) \\
& \text { Minneapolis Police }(12 / 31) \\
& \text { Minneapolis Teachers' }(6 / 30) \\
& \text { St. Paul Teachers' }(6 / 30) \\
& \text { Total }
\end{aligned}
$$

* The Minneapolis Teachers' Retirement Fund Association was rolled into the Teachers' Retirement Association in 2006.
Table 11
Net Assets per Member



Note: This calculation is the result of dividing the Net Assets Held in Trust for Pension Benefits by the Members at Fiscal Year End.
* The Minneapolis Teachers' Retirement Fund Association was rolled into the Teachers' Retirement Association in 2006.
Table 12
Actuarial Accrued Unfunded Liability per Member
For Fiscal Years 1999 to 2007






| 2002 |
| :---: | :---: |
| $\$ \quad 9,650$ |
| $(316)$ |
| 21,075 |
| 52,646 |
| 156,321 |
| 48,639 |
| 25,469 |



| $\mathbf{2 0 0 0}$ |
| :---: |
| $\$(109,109)$ |
| $(2,861)$ |
| 15,516 |
| $(29,153)$ |
| 54,690 |
| 44,085 |
| 22,756 |


| 1999 |
| ---: |
| $\$(158,479)$ |
| 584 |
| 16,245 |
| $(34,633)$ |
| 19,536 |
| 41,849 |
| 30,067 |

Public Pension Plans
Bloomington Fire (12/31)

St. Paul Teachers' (6/30)
Note: This calculation is the result of dividing the Actuarial Accrued Unfunded Liability by the Members at Fiscal Year End.

* The Minneapolis Teachers' Retirement Fund Association was rolled into the Teachers' Retirement Association in 2006.
Table 13
Administrative Expenses
For Fiscal Years 1999 to 2007








 $\frac{\text { Public Pension Plans }}{\text { Bloomington Fire }(12 / 31)}$ Dulu MERF (6/30)
Minneapolis Fire (12/31) Minneapolis Police (12/31) Minneapolis Teachers' (6/30) St. Paul Teachers' (6/30) Total
* The Minneapolis Teachers' Retirement Fund Association was rolled into the Teachers' Retirement Association in 2006.
Table 14
Administrative Expenses per Member
For Fiscal Years 1999 to 2007










| Public Pension Plans |
| :--- |
| Bloomington Fire $(12 / 31)$ |
| Duluth Teachers' $(6 / 30)$ |
| MERF $(6 / 30)$ |
| Minneapolis Fire $(12 / 31)$ |
| Minneapolis Police $(12 / 31)$ |
| Minneapolis Teachers' $(6 / 30)$ |
| St. Paul Teachers' $(6 / 30)$ |

* The Minneapolis Teachers' Retirement Fund Association was rolled into the Teachers' Retirement Association in 2006.
Table 15
Members at Fiscal Year End
For Fiscal Years 1999 to 2007

| Public Pension Plans | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Bloomington Fire (12/31) | 273 | 291 | 304 | 302 | 292 | 289 | 289 | 291 | 309 |
| Duluth Teachers' (6/30) | 3,152 | 3,184 | 3,306 | 3,435 | 3,493 | 3,277 | 3,268 | 3,246 | 3,380 |
| MERF (6/30) | 6,555 | 6,411 | 6,212 | 6,057 | 5,854 | 5,714 | 5,544 | 5,389 | 5,193 |
| Minneapolis Fire (12/31) | 776 | 758 | 731 | 712 | 690 | 663 | 638 | 623 | 608 |
| Minneapolis Police (12/31) | 1,048 | 1,024 | 1,008 | 984 | 959 | 939 | 921 | 899 | 874 |
| Minneapolis Teachers' (6/30) | 10,870 | 11,721 | 12,373 | 12,986 | 13,259 | 13,465 | 13,576 | * | * |
| St. Paul Teachers' (6/30) | 7,803 | 8,632 | 8,969 | 9,491 | 9,587 | 9,854 | 9,909 | 9,944 | 9,951 |
| Total | 30,477 | 32,021 | 32,903 | 33,967 | 34,134 | 34,201 | 34,145 | 20,392 | 20,315 |

Note: "Members" is the sum of retired/beneficiary, terminated and active members at fiscal year end.

* The Minneapolis Teachers' Retirement Fund Association was rolled into the Teachers' Retirement Association in 2006.
Table 16
Members at Fiscal Year End - Retirees \& Beneficiaries Receiving Benefits For Fiscal Years 1999 to 2007

| $\mathbf{2 0 0 5}$ |
| ---: |
| 149 |
| 1,153 |
| 4,908 |
| 601 |
| 904 |
| 3,839 |
| 2,505 |
| $\mathbf{1 4 , 0 5 9}$ |



| $\mathbf{2 0 0 3}$ |
| ---: |
| 139 |
| 1,107 |
| 4,960 |
| 630 |
| 935 |
| 3,642 |
| 2,248 |
| $\mathbf{1 3 , 6 6 1}$ |




$\begin{array}{r}1999 \\ \hline 134 \\ 939 \\ 4,950 \\ 622 \\ 917 \\ 3,145 \\ 1,860 \\ \hline \mathbf{1 2 , 5 6 7} \\ \hline \hline\end{array}$
Public Pension Plans

${ }^{1}$ For 1999, terminated members, if any, includes terminated members entitled to benefits but not yet receiving benefits.
Note: Beneficiaries are defined as retirees, disabled members, and surviving spouses.

* The Minneapolis Teachers' Retirement Fund Association was rolled into the Teachers' Retirement Association in 2006.
Table 17





Investment Expenses
For Fiscal Years 1999 to 2007



Note: Investment Expenses excludes securities lending.
* The Minneapolis Teachers' Retirement Fund Association was rolled into the Teachers' Retirement Association in 2006.

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[^0]:    ${ }^{1}$ The market volatility experienced during 2008 is not reflected in this report. Reporting information for 2008 will not be submitted to the Office of the State Auditor until the summer of 2009.

[^1]:    The Deposit Accumulation Fund holds the remaining active member dollars in a short term bond fund. MERF does not consider this account part of its asset allocation, therefore the account is not included in the total rate of return or asset allocations.

[^2]:    Note: This average is calculated by dividing all Contributions by the number of Members at Fiscal Year End.

    * The Minneapolis Teachers' Retirement Fund Association was rolled into the Teachers' Retirement Association in 2006.

