# State of Minnesota Office of the State Auditor 



Rebecca Otto State Auditor

## LARGE PUBLIC PENSION PLAN INVESTMENT REPORT

For the Year Ended December 31, 2006

## 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, 2006



## January 15, 2008

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## Purpose

This report reviews the investment performance of Minnesota’s large public pension plans. These pension plans, plus the State Board of Investment, held over $\$ 50$ billion in assets at the end of 2006 and represent the retirement savings of nearly 450,000 public employees. The pension plans are required under Minnesota Statutes, Section 356.219, to annually report investment information to the Office of the Auditor, and the State Auditor is required to provide a report to the legislature on the investment performance of these plans. The Office of the State Auditor calculates rates of return using a uniform calculation method, allowing for comparable comparisons of investment performance, whereas the methodologies used by the large plans and their consultants may vary. Oversight of these pension plans is important to safeguard the pensions of public employees and limit local and state liabilities. It also educates and informs fiduciaries and members of the plans.

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.

## Executive Summary

- During 2006, rates of return for the large plans ranged from 12.5 percent (Minneapolis Fire) to 15.6 percent (St. Paul Teachers'). All of the plans matched or exceeded their benchmarks, except for Minneapolis Police and St. Paul Teachers'. The SBI's Basic Fund also missed its benchmark.
- Bloomington Fire is the only large plan that is fully funded. Funding ratios for the other large plans range from 69.1 percent (St. Paul Teachers') to 92.0 percent (MERF).
- Minneapolis Fire and Minneapolis Police continued to have the highest administrative expenses on a per-member basis. Both plans also had the highest total administrative expenses on a percentage of assets basis. Administrative
expenses for these two plans are driven by high legal fees, which were over seven times as high as the fees paid by any of the other large plans.
- Over the ten-year period ending in 2006, Minnesota’s public pension plans have been through a stock market boom, bust, and recovery. All six of the large public pension plans exceeded their actuarial assumed rate of return over this period, and most of the plans were able to keep up with or exceed market returns. The best performing plans over the ten-year period were St. Paul Teachers', Duluth Teachers', and Minneapolis Fire. These plans earned 9.4 percent, 9.1 percent, and 9.0 percent, respectively, and each beat the returns for the SBI's Basic and Post funds for the period.
- The poorest performing plans for the ten-year period were Bloomington Fire and Minneapolis Police, with returns of 6.1 percent and 6.7 percent, respectively. Bloomington Fire has changed the makeup of its investments, which should allow the plan to keep pace with market returns in the future. Minneapolis Police has shown improvement in its investment returns over the past five years, and over half of the plan's assets are now invested in SBI funds with a long-term record of good performance.


## Recommendations

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

- It is important to keep investment policies updated to reflect the current 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 changing allocations. Plan trustees should also be sure to understand the potential risks and rewards of these newer investments, and determine if they will bring any added value to the plan's investment portfolio.
- Benchmarks set a standard for the pension plan and its investment managers to meet. Ensuring that investment returns are measured against appropriate benchmarks allows prudent investment decisions to be made and gives plan trustees, members and taxpayers a fair depiction of how the plan's investments are performing.
- While most of the large plans are run efficiently, Minneapolis Police and Minneapolis Fire continue to have much higher administrative expenses per member than the rest of the plans. Since administrative expenses directly reduce pension plan assets, they should be minimized while still maintaining a well-run pension plan.


## 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 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 management is an attempt to "beat" the market as measured by a particular benchmark or index. The aim of active fund management, after fees are paid, is to outperform the index a particular fund is benchmarked against. Prevailing market trends, the economy, political and other current events, and company-specific 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 is a hybrid strategy that many of the large plans are using. The goal is to achieve the same rate of return as an index, plus one-half to one percent. The underlying strategies are complex, but these investments have become common and are prevalent in the investing world.

## Benchmark

A benchmark is an index to which the plan compares its investments. The benchmark sets a standard for the pension plan and its investment managers to meet. 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. 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.

## 2006 Rates of Return

## Bloomington Fire Department Relief Association

The Bloomington Fire Department Relief Association returned 13.0 percent in 2006, as calculated by the Office of the State Auditor. Bloomington Fire outperformed its benchmark return of 12.4 percent, although the benchmark may have been understated as it does not include international equities.

Bloomington Fire should update its benchmark to include international equities, since 12.7 percent of the plan's assets were held in this asset class at the end of 2006. Bloomington Fire should also specify allocations to international and domestic equities in its investment policy. Bloomington Fire should consider changing its domestic equities benchmark from the S\&P 500 to the Russell 3000, since 92 percent of its domestic equity is invested in a Russell 3000 index fund. Changing the benchmark would not have made a significant difference in 2006, but in other years it may.

In the beginning of 2006, Bloomington Fire moved its assets out of the SBI’s Income Share account, and into the Common Stock, Bond Market and International Share accounts. Since the Income Share account has a five percent allocation to cash, Bloomington Fire's cash holdings were substantially reduced by this change, bringing the plan's actual investments more in line with the investment policy allocations. A reduction in cash holdings should enhance long-term returns.

At the end of 2006, nearly 91 percent of Bloomington Fire's assets were held in the SBI's Supplemental Fund. Just over half of Bloomington Fire's total assets were in the SBI Common Stock account, which is a Russell 3000 index fund. This fund performed as expected, returning 15.9 percent. Bloomington Fire had more than a quarter of its assets in the Bond Market account, which returned 4.6 percent for the period the plan was invested, exceeding its benchmark, the Lehman Brothers Aggregate Bond Index. Bloomington Fire held 10 percent of its assets in the SBI International Share account, which returned 18.5 percent for the period during which the plan was invested.

The remaining nine percent of Bloomington Fire's assets were held in two internally managed accounts. Funds were transitioned between the two accounts during 2006. The smaller of the two accounts, ending the year with just over one percent of the plan's assets, is now invested in short term investments. It returned 11.1 percent during 2006. The larger account, with eight percent of the plan's assets, is invested in individual stocks, bonds, and mutual funds, and returned 16.6 percent during the year. This account held approximately 86.0 percent equities, 9.4 percent cash, and 4.6 percent bonds. Almost half of the internally managed account was invested in the BlackRock Mid Cap Value mutual fund which returned 19.5 percent for the year.

Bloomington Fire closed its account at Williams Capital Management in the first quarter of 2006. During the 33 months the account was open it had an annual return of about 8.0 percent. The SBI Income Share account, with a similar asset allocation to Williams Capital Management, returned 11.6 percent during the same period.

## Duluth Teachers' Retirement Fund Association

The Duluth Teachers' Retirement Fund Association returned 14.7 percent in 2006, as calculated by the Office of the State Auditor, exceeding its benchmark return of 13.9 percent. Solid returns in fixed income and international equities helped Duluth Teachers’ have a strong year. The plan made changes to its investment policy during 2006 to include allocations to private equity and real assets. Fixed income and domestic equity policy allocations were reduced, while the international equities allocation was increased. Private equity had only begun to be funded as of the end of 2006.

Duluth Teachers' investment policy allocates 23 percent to fixed income, down from 30 percent in its previous policy. Western Asset manages Duluth Teachers’ fixed income portfolio, which returned 5.3 percent in 2006, exceeding the Lehman Aggregate Index return of 4.3 percent.

While the investment policy allocation to domestic equities was decreased from 53 percent to 48 percent, the actual allocation remained at 53 percent, most likely because the new private equity accounts had not been fully funded before the end of the year. Duluth Teachers' has three domestic equity managers. More than half of the plan's domestic equity is allocated to large capitalization stocks, invested by Met West in an enhanced S\&P 500 fund. The fund's goal in the long term is to return one-half to one percent greater than the S\&P 500 Index. The Met West fund performed well, exceeding the S\&P 500 return by 1.7 percent.

The actively managed portions of Duluth Teachers' domestic equity portfolio did not perform as well as Met West during 2006. Duluth Teachers’ small capitalization growth portfolio is managed by Disciplined Growth Investors. The portfolio returned 9.5 percent in 2006, while its benchmark, the Russell 2000 Growth Index, returned 13.4 percent. Wellington manages the remainder of Duluth Teachers' domestic equity in a small/mid capitalization value portfolio. The portfolio returned 17.8 percent, compared to the benchmark Russell 2500 Value Index return of 20.2 percent.

Duluth Teachers' investment policy allocation to international equity was increased from 12 percent to 15 percent during 2006. Duluth Teachers' held all of its international equity in a fund managed by Julius Baer, which returned 31.0 percent in 2006, an exceptional return compared to the benchmark MSCI EAFE return of 26.3 percent. Some of the excess return may have been gained through exposure to emerging markets, which are not reflected in the benchmark.

During 2006, Duluth Teachers’ added a six-percent allocation to real assets in its investment policy. Real assets include real estate, commodities, and stock of companies exposed to commodities. Real assets are used as a hedge against high inflation, and for diversification, since the returns of commodities are not correlated with the returns of stocks and bonds. Duluth Teachers' two real assets funds had significantly different returns for the year. The Wellington account returned 20.6 percent, while the PIMCO account returned negative 3.0 percent. This divergence could be due to the fact that commodity-related stocks had a good year in 2006, while commodities and inflationprotected bonds barely broke even. Differing strategies may have resulted in varying returns, even within the same general asset class. Duluth Teachers' also holds real estate, including the building that the plan's offices are housed in, which returned 11.9 percent in 2006. The real estate holdings are less than one percent of the plan's total assets.

Duluth Teachers' began funding a five-percent investment policy allocation to private equity in September 2006. Private equity is the stock of companies that are not publicly traded. The stocks are illiquid, and hard to value, but some investors believe there are opportunities for high long-term returns. The private equity accounts are held at HarbourVest \& Piper Jaffray.

## Minneapolis Employees Retirement Fund

The Minneapolis Employees Retirement Fund (MERF) returned 14.8 percent in 2006, just beating its benchmark of 14.7 percent. MERF does not include the Deposit Accumulation Fund (DAF) in its total fund return or asset allocations. The DAF, which holds the remaining active members' assets, returned 3.9 percent in 2006, and is now invested in a short-term investment fund.

MERF's domestic equity portfolio returned 15.3 percent in 2006, below the Russell 3000 benchmark return of 15.7 percent. The underperformance was due to Private Capital Management's return of 13 percent. While this fund targets high absolute returns every year, rather than returns relative to a benchmark, it did not keep up with market returns in 2006, and has not kept up since its inception in early 2004. MERF's PIMCO StocksPlus fund returned just below the benchmark S\&P 500 return of 15.8 percent. This fund's goal is to exceed the S\&P 500 return over the long term. The majority of MERF's domestic equity is indexed to the Russell 3000 through State Street Global Advisors. This fund holds more than one quarter of MERF's total assets, and performed as expected in 2006. In total, MERF has 42 percent of its assets invested in domestic equities.

In addition, MERF indexes its international equity portfolio through State Street. The assets are invested in an All-Country World excluding U.S. index fund, which performed as expected. The international equity portfolio comprises 16 percent of MERF's total assets.

MERF also has exposure to international markets through a global fund actively managed by Capital Guardian. The fund returned 16.9 percent in 2006, well below the benchmark

MSCI ACWI Index return of 21.0 percent. Sixty-two percent of this fund was invested internationally, with the remainder invested in U.S. equities. This global equity fund held 9.5 percent of MERF's total assets.

Real estate investment trusts performed exceptionally well in 2006, with the Wilshire REIT Index returning 36 percent. MERF's REIT portfolio, managed by Adelante Capital, exceeded this benchmark with a return of 37.5 percent. MERF's returns from its real estate portfolio have been excellent in the short and long term.

MERF's fixed income portfolio returned 1.9 percent in 2006, which is much lower than the other large plans' fixed income returns. MERF's fixed income portfolio has different characteristics than the fixed income holdings for the other large plans, therefore differing returns are expected. Western Asset Management and PIMCO both manage inflation-protected bond portfolios for MERF. These types of bonds protect assets from the risks of inflation, making the portfolio sensitive to both changes in and expectations of inflation. The Lehman Brothers TIPS Index is the benchmark for these two portfolios, and returned 0.4 percent in 2006. The PIMCO portfolio returned negative 0.6 percent while Western returned 2.0 percent. The remainder of MERF's fixed income (about one third of the total fixed income portfolio) is managed by Aberdeen Asset Management. Aberdeen returned 4.6 percent in 2006, exceeding the benchmark Lehman Brothers Aggregate Bond Index return of 4.3 percent.

## Minneapolis Firefighters' Relief Association

The Minneapolis Firefighters’ Relief Association returned 12.5 percent in 2006, as calculated by the Office of the State Auditor, matching its benchmark return. Minneapolis Fire updated its benchmark in 2006 to include small company stocks and international equities, making it a more accurate gauge of the performance of the plan's portfolio. The commodities index used in the benchmark may not be appropriate, however, and caused the benchmark to be understated for the year.

In just the past few years, Minneapolis Fire has moved from having no international equity to having almost a quarter of its assets in international markets. The timing of this change has been very fortunate, as strong performance in international equities coupled with a falling dollar have given excellent returns to international equity investments. Minneapolis Fire should update its investment policy to provide for international equity investments and reflect the plan's current investment strategy.

International equity manager, Dodge \& Cox, returned 24.8 percent as calculated by the Office of the State Auditor, while Minneapolis Fire’s consultant reported a return of 27.7 percent. The difference in calculated returns is meaningful because the benchmark MSCI EAFE returned 26.3 percent. The fund either outperformed or underperformed its benchmark, depending on which number is used. Minneapolis Fire's other international equity manager, Manning \& Napier, performed very well in 2006. The Office of the State Auditor calculated a return of 40.8 percent for this fund, while Minneapolis Fire’s
consultant calculated a 33.7 percent return. Both returns are well above the benchmark MSCI EAFE return of 26.3 percent.

Minneapolis Fire also has exposure to international markets through its Ivy Global Natural Resources Fund. This fund has investments in both U.S. and international equities with exposure to natural resources. The fund performed well in 2006, with a return of 25.9 percent. Minneapolis Fire benchmarks this fund to the Dow Jones AIG Commodities Index, which returned only 2.1 percent in 2006. Ivy uses the MSCI Commodities Related Index as its benchmark, however, which returned 21.5 percent in 2006. Minneapolis Fire should reconsider the benchmark for the Ivy fund.

At the end of 2006, Minneapolis Fire funded New Century Capital Management with \$5 million. This account will invest in domestic and international markets.

Minneapolis Fire held fixed income accounts at RiverSource, the SBI, and PIMCO during 2006. The total return for fixed income was 5.5 percent, exceeding its benchmark Lehman Aggregate Index return of 4.3 percent. RiverSource and SBI both added value over the Index, while the PIMCO account was drawn down over the year, ending with only $\$ 110,000$ after beginning the year with over $\$ 20$ million invested. The PIMCO account was opened in December 2005.

Minneapolis Fire invested with four domestic equity managers during 2006. The plan’s account with Kayne Anderson Rudnick was closed in the fourth quarter. This account had been significantly underperforming its benchmark during 2006, although the account's longer term performance had been close to its benchmark. Marquee Millennium manages a large cap value portfolio, which returned only 10.0 percent in 2006, compared to the benchmark Russell 1000 Value return of 22.2 percent. White Pine Capital's small cap growth portfolio fared better than Marquee Millennium, but still underperformed its benchmark, returning 11.1 percent compared to the Russell 2000 Growth return of 13.4 percent. The SBI Common Stock account, an index fund that tracks the Russell 3000, performed as expected during 2006, returning 15.9 percent.

## Minneapolis Police Relief Association

The Minneapolis Police Relief Association returned 13.8 percent in 2006, as calculated by the Office of the State Auditor, which fell short of its benchmark return of 14.1 percent. Below market returns in domestic equities, international equities, and global equities all played a part in the plan's underperformance. In addition, the benchmark return may be understated because it does not include an allocation to high yield bonds.

The asset allocation targets for Minneapolis Police changed in 2006 with a new investment policy going into effect. Allocations of 10 percent to global equities, five percent to opportunistic, and five percent to real estate and other were added. Domestic equity, fixed income, and international equity allocations were all decreased to accommodate the new asset classes.

Minneapolis Police's domestic equities returned 14.5 percent in 2006. The benchmark for this class, the Wilshire 5000, returned 15.8 percent. Minneapolis Police closed four domestic equity accounts in late 2006; the Wells Fargo S\&P 500 Index account, Wasatch Advisors, PIMCO, and Brandywine Asset Management. Aside from the index account, the domestic equity accounts did not meet their benchmarks during 2005, which may have contributed to the plan's decision to close them during 2006. Most of the proceeds from these accounts were invested in the SBI Common Stock account, which is a Russell 3000 index fund. The SBI account performed as expected, tracking its index. Just over 85 percent of Minneapolis Police's domestic equity was invested in this fund at the end of 2006. Minneapolis Police's only other domestic equity account is held at Grantham, Mayo, Van Otterloo. This fund returned 10.3 percent in 2006, compared to its benchmark Wilshire 5000 return of 15.8 percent.

Minneapolis Police's fixed income portfolio returned 5.6 percent in 2006, compared to the benchmark Lehman Brothers Aggregate Bond Index return of 4.3 percent. While the Lehman Brothers Index tracks only investment grade bonds, Minneapolis Police's Loomis Sayles and Western fixed income accounts, returning 11.0 and 6.8 percent respectively, are invested in high yield (junk) bonds. High yield bonds returned more than twice as much as investment grade bonds in 2006, which accounted for Minneapolis Police's high fixed income return.

While the decision to invest in high yield bonds added value for Minneapolis Police, using a benchmark that includes high yield bonds would allow the managers' returns to be compared to available market returns. Minneapolis Police's two other fixed income accounts returned closer to the benchmark, with the SBI Bond Market account returning 4.7 percent, and Galliard Capital Management returning 4.4 percent.

Minneapolis Police's international equity portfolio returned 26.3 percent during 2006. The return was slightly below the 26.7 percent return of the benchmark MSCI AllCountry World Index ex. U.S. The majority of the assets in international equity were held in the SBI International Share account, which returned above its benchmark for the year at 27.1 percent. However, the Mercator account offset much of the success of the International Share account by underperforming for the year. Mercator returned 24.6 percent for the year compared to its benchmark MSCI EAFE Index return of 26.3 percent.

Minneapolis Police held two global funds during 2006. The New Perspective Fund, a global equities fund managed by Capital Research and Management, returned 19.7 percent during 2006, below the MSCI All-Country World Index benchmark of 21.0 percent for the year. The Mellon Global Alpha I Fund was funded in October, and returned 7.6 percent while it was open, compared to its 2.8 percent benchmark return.

A real estate account, Prudential PRISA, was also funded by Minneapolis Police in December 2006.

## St. Paul Teachers' Retirement Fund Association

The St. Paul Teachers' Retirement Fund Association returned 15.6 percent in 2006, as calculated by the Office of the State Auditor, below its benchmark return of 16.1 percent. Below market returns in domestic and international equities pushed the plan's total fund return below the benchmark. St. Paul Teachers' actual asset allocation was in line with its investment policy allocation at the end of 2006.

St. Paul Teachers' domestic equity portfolio returned 14.0 percent in 2006. The portfolio's return was weakened by the performance of the active managers. Passively managed, the portfolio could have returned just over 16.0 percent. The indexed portion of the portfolio, which accounted for just over 40 percent of the domestic equities, performed as expected in 2006. Of St. Paul Teachers’ six active managers, only Fifth Third Asset Management’s large capitalization growth portfolio was able to exceed its benchmark. Dimensional Fund Advisors and Wellington Management were close to equaling their benchmarks. St. Paul Teachers' lost considerable value with its remaining three managers. Alliance Capital barely managed to stay in the black for 2006, returning 0.6 percent, while the benchmark Russell 1000 Growth returned 9.1 percent. Boston Company was the worst relative performer, returning 9.2 percent compared to the Russell 2000 return of 18.4 percent. Barrow Hanley also underperformed, returning 16.4 percent, falling short of the Russell 1000 Value return of 22.3 percent.

St. Paul Teachers’ international equity returned 26.1 percent in 2006. Neither of the plan's developed market international equity managers was able to beat its benchmark return of 26.3 percent, the MSCI EAFE. JP Morgan's EAFE Plus returned 23.4 percent and Morgan Stanley returned 22.8 percent. Just under one-fifth of St. Paul Teachers’ international equity is invested in an emerging markets fund with Capital International. The Capital International fund successfully exceeded the MSCI Emerging Markets Index, returning 36.5 percent compared to the benchmark's 32.2 percent return.

Half of St. Paul Teachers' fixed income portfolio is actively managed, and half indexed to the Lehman Brothers Government/Credit Index. The indexed portion performed as expected, returning 3.9 percent. The actively managed portion, managed by Voyageur, returned five percent, exceeding the benchmark Lehman Brothers Aggregate Index return of 4.3 percent.

St. Paul Teachers’ real estate portfolio returned 18.2 percent in 2006, exceeding the benchmark NCREIF Property Index return of 16.6 percent. Advantus, holding one-fifth of the plan's real estate portfolio, returned 31.2 percent, while UBS, holding the rest, returned 15.4 percent.

The alternative investments return for St. Paul Teachers', as calculated by the Office of the State Auditor, was negative 8.9 percent in 2006. This loss was entirely attributable to investments in RWI private equity funds. St. Paul Teachers' holding in Turin Networks had no change in value during 2006. These illiquid, difficult to value, investments’ true
returns will not be known until the underlying securities become publicly traded or are liquidated.

St. Paul Teachers' has an unusually high rate of return of 22.2 percent for its cash account. This high return comes from an "enhanced cash" account, which overlays equity returns on cash. Some of the return also comes from securities lending income, which is included in the cash return.

## State Board of Investment

The State Board of Investment (SBI)'s Basic Fund returned 14.7 percent in 2006, just below its benchmark of 14.9 percent. The Post Fund returned 14.5 percent, exceeding its benchmark of 14.4 percent. The Basic Fund holds assets for the active members of the three state-wide retirement systems, while the Post Fund holds assets for the retired members of these three plans. The assets of both funds are invested together in a combined fund. The differing returns of the Basic and Post Fund result from their differing asset allocations, and how the investments are allocated to each fund. The investment performance discussion in this section is based on the combined fund.

The SBI's domestic equity portfolio returned 14.5 percent in 2006. The portfolio underperformed the benchmark Russell 3000 return of 15.7 percent. The passively managed portion, one third of the portfolio, performed as expected, tracking the Russell 3000. The semi-passive managers, holding just over one-third of the portfolio, returned 16.1 percent, exceeding the benchmark Russell 1000 return of 15.5 percent. The cause of the portfolio's underperformance was SBI's active managers, which held just under onethird of the domestic equity portfolio. Out of 27 active managers, only three were able to meet or exceed their benchmark during 2006. The active managers’ aggregate return for 2006 was only 11.5 percent, well below their custom benchmark of 15.8 percent. While active managers shouldn't be expected to exceed their benchmark every year, it is unusual to have so many managers perform poorly in a single year.

The SBI's international equity portfolio returned 27.0 percent in 2006, exceeding the benchmark MSCI ACWI ex. U.S. Index return of 26.7 percent. Two out of the SBI's three active emerging market managers exceeded the benchmark MSCI Emerging Market return of 32.2 percent, adding the most value to the portfolio. At the end of 2006, 14.4 percent of the portfolio was invested in emerging markets, with the rest invested in developed markets. Just over half of the developed market international equity was actively managed.

The SBI's bond portfolio returned 4.7 percent, exceeding the benchmark Lehman Brothers Aggregate Index return of 4.3 percent. Seven of eight managers met or exceeded their benchmark, with Dodge \& Cox having the highest return at 5.5 percent. The SBI has authority to invest in high yield (junk) bonds, which may have helped its bond returns during 2006. Junk bonds returned upwards of nine percent in 2006.

Alternative investments had another outstanding year for the SBI, returning 21.8 percent. More than half of SBI's alternative investments were in private equity. Just under a quarter were in yield-oriented investments, while six percent were in resource investments and 18 percent were in real estate. All of these categories had high returns during 2006.

Figure 1: 2006 Rates of Return


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## Funding Ratios

Funding ratios measure a plan's assets compared to its liabilities. An actuary uses statutory assumptions based on historical data to calculate the plan's liability. Comparing this liability to the plan's net assets determines how well funded the plan is. For all of the large plans except Bloomington Fire, the net assets are smoothed over five years so that large increases or decreases in the funding ratio are minimized.

An important point to consider is that the plan with the lowest rate of return over the past ten years (Bloomington Fire) has the highest funding ratio, while the plan with the highest rate of return (St. Paul Teachers') has the lowest funding ratio. This shows that plan provisions, actuarial assumptions, contributions, and historical funding issues have a large impact on a plan's funding ratio, sometimes more so than rates of return.

Bloomington Fire is the only plan that is over 100 percent funded, at 133.9 percent. [See Figure 2 on page 16.] MERF is holding steady at 92.0 percent funded, Minneapolis Fire is 87.5 percent funded, Duluth Teachers' is 84.1 percent funded, and Minneapolis Police improved to 85.7 percent funded.

St. Paul Teachers' has the lowest funding ratio at 69.1 percent. To increase the funding ratio, and to ensure a financially healthy pension plan, St. Paul Teachers' must address its contribution deficiency. As of June 30, 2006, contributions were deficient by 8.7 percent of payroll. Contributions are used to cover normal costs, administrative costs, and amortization of unfunded actuarial accrued liabilities.

To become fully funded, St. Paul Teachers' will need some combination of excess contributions, an extended period of investment returns above 8.5 percent, and changes in actuarial assumptions. St. Paul Teachers' has taken steps to limit its post-retirement benefit increases to a maximum of five percent. This will leave more of St. Paul Teachers' returns in excess of the actuarial assumed 8.5 percent rate of return to reduce its deficit and increase the funding ratio. In the past, much of the investment return over 8.5 percent was paid out as a permanent benefit increase. Since there was no permanent funding mechanism for these increases, the financial health of the plan was affected.

All plans should ensure that their post-retirement benefit increase mechanism will not jeopardize the health of the plan.

Figure 2: Fiscal Year 2006 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 necessary and reasonable, while still maintaining a well-managed pension plan.

MERF had the highest total administrative expenses in 2006 at $\$ 792,843$. Bloomington Fire had the lowest, at $\$ 71,254$. On a per member basis, however, MERF's expense was $\$ 147$, and Bloomington Fire's was $\$ 245$.

St. Paul Teachers' had the lowest expense per member in 2006, at \$59. St. Paul Teachers' benefits from economies of scale, having by far the most members of the large plans. Minneapolis Fire had the highest expense per member, at \$942. Minneapolis Police also had a high cost per member, at $\$ 682$. Minneapolis Fire and Minneapolis Police have had the highest administrative expenses per member for each of the past ten years.

While Minneapolis Fire decreased its total administrative expenses by 12 percent from 2005 to 2006, to $\$ 586,587$, Minneapolis Police’s expenses increased by four percent to $\$ 613,007$. [See Table 13 on page 49.] Since both of these plans are closed to new members, their total membership is slowly decreasing. This leaves fewer members over which to spread administrative costs.

Figure 3: Average Total Administrative Expense By Total Members (2002-2006)


The higher administrative expenses for Minneapolis Fire and Minneapolis Police seem to be driven by legal fees. Both plans have been involved in ongoing litigation, which has had an impact on their legal fees. Minneapolis Fire spent $\$ 150,101$ and Minneapolis Police spent $\$ 182,891$ on legal fees in 2006. To put this amount in perspective, the next highest amount spent by any of the large plans on legal fees was St. Paul Teachers’ at $\$ 21,005$. This disparity is a big part of why Minneapolis Police and Minneapolis Fire have much higher administrative costs per member, and also have the highest administrative costs on a percentage of assets basis.

Figure 4: Total Legal Fees 2002-2006


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## Ten-Year Performance Analysis

Over the ten years from the beginning of 1997 to the end of 2006, the stock market has been through a boom, bust and recovery. The U.S. stock market has had annual returns as high as 31.8 percent and as low as negative 21.5 percent during this period. The experience of these ten years gives us ample information to judge how investments fared for Minnesota's large plans over the long term, and during tumultuous markets.

All of Minnesota’s large plans have chosen to invest substantial assets in equities. Over the long term, equities have had higher returns than debt investments (bonds) or cash. One of the trade offs for these higher returns is volatility, or swings in value. This volatility is seen in the aforementioned high and low annual returns. While equities have been the asset class with the largest allocation for each of the large plans, each plan is diversified among various asset classes to try and dampen the effect of large drops in value of any particular asset class. Over the past ten years, the largest gain in a single year for any plan was 29.4 percent by Duluth Teachers' in 1999, while the largest loss was negative 14.4 percent by Bloomington Fire in 2002.

To get a feel for the returns that were available over the ten-year period, index returns are used as benchmarks. The overall U.S. stock market average annual return over the tenyear period was 8.6 percent as measured by the Russell 3000. This return includes both large and small company stocks. The average annual bond market return, as measured by the Lehman Brothers Aggregate Index, was 6.2 percent. Developed market international equities returned 7.7 percent as measured by the MSCI EAFE, while emerging markets returned 9.4 percent. These returns (minus very small fees) were available to Minnesota's large plans over the past ten years.

The State Board of Investment's Income Share account is a good example of an actual return that was available over the ten-year period. The makeup of the fund is 60 percent domestic equities, 35 percent bonds, and five percent cash. Although not every large plan is authorized to invest in the Income Share account, a similar portfolio could have easily been built. The Income Share account's average annual return was 7.9 percent, with the best year being 1997 with a return of 23.4 percent, and the worst being 2002 with a return of negative 10.9 percent.

The bond benchmark return sets a baseline for returns of a conservative portfolio. A conservative portfolio of high quality bonds could have earned 6.2 percent annually over the past ten years. Since all of Minnesota's large plans have investments in equities, which should yield greater returns over a long time period, the large plans should have easily exceeded the bond benchmark return. Knowing the returns available in capital markets, and that an investable, diversified fund (SBI Income Share account) returned 7.9 percent, we can judge how Minnesota’s public pension plans have performed over the
past ten years. Generally, Minnesota's large public pension plans' investment portfolios have performed well. All plans exceeded their actuarial assumed rate of return over the ten-year period. Most of the plans kept up with or exceeded market returns, with a few exceptions. An analysis of each plan's ten-year investment performance follows.

## Bloomington Fire Department Relief Association

The Bloomington Fire Department Relief Association returned 6.1 percent over the past ten years, the lowest return of the large plans. Although Bloomington Fire had a similar allocation to equities as the other large plans, it trailed far behind the better performing plans. Considering Bloomington Fire's asset allocation and the risk it took, the plan's returns were very poor. Bloomington Fire could have done better had it invested in a bond portfolio, or in the SBI’s Income Share account. Bloomington Fire has changed the makeup of its investments, with most of the plan's domestic equities indexed to the Russell 3000. The portfolio should now be better able to keep up with market returns. Bloomington Fire should carefully monitor its internally managed account, as the various assets in the account make it difficult to assess performance.

## Minneapolis Police Relief Association

The Minneapolis Police Relief Association returned 6.7 percent over the ten-year period. Since the plan was not invested more conservatively than the other large plans, this is a disappointing return. A simpler, indexed investment portfolio would have had better returns. Minneapolis Police has shown improvement over the past five years, and nearly 56 percent of its assets are now with the SBI in funds with long-term track records of good performance.

## St. Paul Teachers' Retirement Fund Association

The ten-year return for the St. Paul Teachers' Retirement Fund Association was 9.4 percent, which is the best among the large plans. An aggressive, diversified asset allocation, successful active management and sector selection, especially in domestic equities, have brought St. Paul Teachers' returns well above market benchmarks.

## Duluth Teachers' Retirement Fund Association

Like St. Paul Teachers’, the returns for the Duluth Teachers' Retirement Fund Association have been driven by sector selection and active management. Returning 9.1 percent over the past ten years, Duluth Teachers' has also benefited from excellent returns in fixed income from its bond manager, Western Asset Management.

## Minneapolis Firefighters' Relief Association

The Minneapolis Fire Relief Association's ten-year return of 9.0 percent is helped by strong returns from the beginning of the ten-year period. Domestic stock and bond manager Alliance was responsible for much of the plan's above market returns. For most of the ten-year period, Minneapolis Fire invested primarily in domestic stocks and bonds, but recently the plan has added investments in international equities and global natural resource equities.

## Minneapolis Employees Retirement Fund

The Minneapolis Employees Retirement Fund (MERF) returned 8.5 percent over the tenyear period. MERF has met or exceeded market returns, and has benefited from a real estate investment trust portfolio that has returned 16.4 percent since 1997.

## State Board of Investment

The State Board of Investment (SBI)'s Basic Fund returned 8.9 percent and the Post Fund returned 8.6 percent over the ten-year period. Differing asset allocations and slight differences in asset class returns between the two funds account for the variation in total fund returns. SBI's returns have been boosted by a combined 16.4 percent return on alternative investments over the ten-year period. Alternative investments now make up 10.4 percent of the Basic Fund's assets and 8.3 percent of the Post Fund’s assets.

Figure 5: Ten-Year Average Annual Rates of Return


## 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 9.4 percent (the highest large plan return) for ten years. At the end of ten years, you would have $\$ 246$. If you instead only earned 6.1 percent (the lowest large plan return), you would have \$181 at the end of ten years. The higher rate of return yields 36 percent more in actual dollars. If plan provisions are set up optimally, high rates of return should 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 6: Ten-Year Growth of $\mathbf{\$ 1 0 0}$ at Differing Rates of Return


2006 Plan Summaries

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## How to Read the Plan Summaries

The plan summaries found on pages 27 through 34 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 2006, as calculated by the Office of the State Auditor. (Under state law, the Minneapolis Employees Retirement Fund and the State Board of Investment are allowed to submit more limited reporting information. The rates of return for these two plans are provided by the plans and not re-calculated by the Office of the State Auditor.)

Plan One-Year ROR - The pension plan's return on its assets for 2006, 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. 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 2006. The market value is the price as determined by buyers and sellers in an open market.

## Net Cash Flows

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.

## Rate of Return

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





| Rates of Return (ROR) |  |
| :--- | ---: |
|  |  |
| OSA One-Year ROR | $13.0 \%$ |
| Plan One-Year ROR | $13.3 \%$ |
| Benchmark ROR | $12.4 \%$ |
| Actuarial Assumed ROR - Active | $6.0 \%$ |
| Actuarial Assumed ROR - Retired | $6.0 \%$ |
| OSA Three-Year ROR | $9.0 \%$ |
| OSA Five-Year ROR | $5.8 \%$ |
| OSA Ten-Year ROR | $6.1 \%$ |




Bloomington Fire Department Relief Association
For the Year Ended December 31, 2006
(Dolars in Thousands)
Bloomington Fire Department Relief Association
For the Year Ended December 31, 2006
(Dollars in Thousands)
Bloomington Fire Department Relief Association
For the Year Ended December 31, 2006
(Dollars in Thousands)

\[

\]

Duluth Teachers' Retirement Fund Association For the Year Ended December 31, 2006

| Actual <br> Asset Allocation |  |
| :--- | ---: |
| Equities: Large Cap | $29.4 \%$ |
| Equities: Small/Mid Cap Value | $10.9 \%$ |
| Equities: Small Cap Growth | $13.0 \%$ |
| Fixed Income | $23.8 \%$ |
| International Equities | $16.2 \%$ |
| Cash | $1.0 \%$ |
| Real Assets | $5.2 \%$ |
| Private Equity | $0.5 \%$ |



| Benchmark Components and Rates of Return |  |  | PolicyAsset Allocation |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| S\&P 500 | 15.8\% |  | Equities: I | Large Cap | 25.0\% |
| Russell 2500 Value | 20.2\% |  | Equities: | Small/Mid Cap Value | 10.0\% |
| Russell 2000 Growth | 13.4\% |  | Equities: | Small Cap Growth | 13.0\% |
| Lehman Bros. Aggregate | 4.3\% |  | Fixed Inco |  | 23.0\% |
| msCi EAFE | 26.3\% |  | Internatio | nal Equities | 15.0\% |
| 90-Day U.S. Treasury Bill | 4.8\% |  | Cash |  | 3.0\% |
| Custom Real Assets | 6.3\% |  | Real Asse |  | 6.0\% |
| Treasury Bill $+10 \%$ | 14.8\% |  | Private Eq | quity | $5.0 \%$ |
| Investment Type |  | Beginning Market Value |  | Net Cash Flow (Net of Fees) |  |
| Domestic Equities |  | 143,559 |  | \$ (5,132) |  |
| Fixed Income |  | 67,770 |  | 200 |  |
| Real Assets |  | 7,822 |  | 0 |  |
| Real Assets |  | 5,681 |  | (950) |  |
| International Equities |  | 46,298 |  | $(9,953)$ |  |
| Cash |  | 2,646 |  | 47 |  |
| Real Estate |  | 2,364 |  | (275) |  |
| Private Equity |  | 0 |  | 1,641 |  |
| Total |  | \$ 276,140 |  | \$ (14,422) |  |


| Rates of Return (ROR) |  |
| :--- | ---: |
| OSA One-Year ROR | $14.7 \%$ |
| Plan One-Year ROR | $14.6 \%$ |
| Benchmark ROR | $13.9 \%$ |
| Actuarial Assumed ROR - Active | $8.5 \%$ |
| Actuarial Assumed ROR - Retired | $8.5 \%$ |
| OSA Three-Year ROR | $10.9 \%$ |
| OSA Five-Year ROR | $8.9 \%$ |
| OSA Ten-Year ROR | $9.1 \%$ |


${ }^{1}$ The Custom Real Assets benchmark is weighted 50.0\% DJ AIG Commodity Index, $33.3 \%$ CPI $+5 \%$, and $16.7 \%$ NCRIEF Property Index.


| $\begin{array}{c}\text { Actual } \\ \text { Asset Allocation }\end{array}$ |
| :--- |
| Domestic Equities |
| Fixed Income |
| International Equities |
| Global Equities |
| Real Estate |
| Cash |




## Minneapolis Employees Retirement Fund <br> For the Year Ended December 31, 2006



| Investment Type |
| :--- |
| Domestic Equities |
| Fixed Income |
| International Equities |
| Global Equities |
| Real Estate |
| Cash |
| Low Duration Fixed Income | Total


| Rates of Return (ROR) |  |
| :--- | ---: |
|  |  |
| Plan One-Year ROR | $14.8 \%$ |
| Benchmark ROR | $14.7 \%$ |
| Actuarial Assumed ROR - Active | $6.0 \%$ |
| Actuarial Assumed ROR - Retired | $5.0 \%$ |
| Plan Three-Year ROR | $11.6 \%$ |
| Plan Five-Year ROR | $9.0 \%$ |
| Plan Ten-Year ROR | $8.5 \%$ |

Beginning
Market Value

| Net Cash Flow <br> (Net of Fees) |  |
| :---: | ---: |
| $\$$ | $(11,146)$ |
|  | 801 |
|  | $(40,396)$ |
|  | $(8,302)$ |
|  | $(21,115)$ |
|  | 1,078 |
|  | $(5,059)$ |
| $\$$ | $\mathbf{( 8 4 , 1 3 9 )}$ |


| $\$ 1,294,315$ | $(84,139)$ |
| :--- | :--- |

${ }^{1}$ The Custom Fixed Income benchmark is weighted $66.7 \%$ Lehman Brothers TIPS Index and 33.3\% Lehman Brothers Aggregate Index. account is not included in the total rate of return or asset allocations.

## Minneapolis Firefighters' Relief Association For the Year Ended December 31, 2006





| $\begin{array}{c}\text { Policy } \\ \text { Asset Allocation }\end{array}$ |  |
| :--- | ---: |
| Domestic Equities | $40-70 \%$ |
| Domestic Bonds | $20-40 \%$ |
| Real Estate and Other | $0-5 \%$ |

 \begin{tabular}{cr}
$\begin{array}{c}\text { Net Cash Flow } \\
\text { (Net of Fees) }\end{array}$ <br>
\hline$\$ \$$ \& $(15,002)$ <br>
\& $(21,401)$ <br>
\& 15,295 <br>
\& 7,234 <br>
\& $(123)$ <br>
\& $(14)$ <br>
\& 1,220 <br>
\& $(14)$ <br>
\& $(3)$ <br>
\& 5,000 <br>
\& $(11,707)$ <br>
\& 0 <br>
\hline$\$$ \& $\mathbf{( 1 9 , 5 1 5 )}$ <br>
\hline

 

$\begin{array}{c}\text { Beginning } \\
\text { Market Value }\end{array}$ <br>
\hline$\$ \$ 1,429$ <br>
\& 39,225 <br>
\& 24,495 <br>
\& 1,209 <br>
19,022 <br>
\& 23,436 <br>
\& 10,594 <br>
\& 34,130 <br>
\& 28,143 <br>
\& 0 <br>
\& 11,724 <br>
\& 2,330 <br>
\hline$\$$ \& $\mathbf{2 5 5 , 7 3 7}$ <br>
\hline
\end{tabular}




OSA Ten-Year ROR

Cash

FAF Advisors Ivy Global Funds Leuthold Weeden
Mairs \& Power


SBI Income Share - Health Escrow
${ }^{1} 40 \%$ allocated to S\&P 500, 35\% Lehman Bros. Aggregate, $5 \%$ Russell 2000 Growth, $15 \%$ MSCI EAFE, $5 \%$ Dow Jones AIG Commodities.

| Rates of Return (ROR) |  |
| :--- | ---: |
|  |  |
| OSA One-Year ROR | $13.8 \%$ |
| Plan One-Year ROR | $13.7 \%$ |
| Benchmark ROR | $14.1 \%$ |
| Actuarial Assumed ROR - Active | $6.0 \%$ |
| Actuarial Assumed ROR - Retired | $6.0 \%$ |
| OSA Three-Year ROR | $10.0 \%$ |
| OSA Five-Year ROR | $7.9 \%$ |
| OSA Ten-Year ROR | $6.7 \%$ |

## Minneapolis Police Relief Association For the Year Ended December 31, 2006 (Dollars in Thousands)









> | $\begin{array}{l}\text { Benchmark Components } \\ \text { and Rates of Return }\end{array}$ |  |
| :--- | ---: |
| Wilshire 5000 | $15.8 \%$ |
| Lehman Bros. Aggregate | $4.3 \%$ |
| MSCI ACWI ex. U.S. | $26.7 \%$ |
| MSCI ACWI | $21.0 \%$ |



$$
\begin{aligned}
& \text { Global Equities } \\
& \text { Real Estate \& Other } \\
& \text { Opportunistic }
\end{aligned}
$$

$$
\begin{array}{r}
43.0 \% \\
25.0 \% \\
12.0 \% \\
10.0 \% \\
5.0 \% \\
5.0 \%
\end{array}
$$



| Rates of Return (ROR) |  |
| :--- | ---: |
|  |  |
| OSA One-Year ROR | $13.8 \%$ |
| Plan One-Year ROR | $13.7 \%$ |
| Benchmark ROR | $14.1 \%$ |
| Actuarial Assumed ROR - Active | $6.0 \%$ |
| Actuarial Assumed ROR - Retired | $6.0 \%$ |
| OSA Three-Year ROR | $10.0 \%$ |
| OSA Five-Year ROR | $7.9 \%$ |
| OSA Ten-Year ROR | $6.7 \%$ |

St. Paul Teachers' Retirement Fund Association For the Year Ended December 31, 2006 | Policy |  |
| :--- | ---: |
| Asset Allocation |  |
| Equities: Large Cap | $36.0 \%$ |
| Equities: Small Cap | $9.0 \%$ |
| Fixed Income:Domestic | $19.0 \%$ |
| Real Estate | $8.0 \%$ |
| Int'l Equities:Core | $21.0 \%$ |
| Int'l Equities: Emerging | $4.0 \%$ |
| Alternative Assets | $2.0 \%$ |
| Cash | $1.0 \%$ |



| Actual <br> Asset Allocation |  |
| :--- | ---: |
| Domestic Equities | $45.3 \%$ |
|  |  |
| Domestic Fixed Income | $18.0 \%$ |
| Real Estate | $9.1 \%$ |
| International Equities | $26.0 \%$ |
|  |  |
| Alternative Assets | $0.7 \%$ |
| Cash | $0.9 \%$ |


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| $\begin{array}{c}\text { Benchmark Components } \\ \text { and Rates of Return }\end{array}$ |  |
| :--- | ---: |
| S\&P 500 | $15.8 \%$ |
| Russell 2000 | $18.4 \%$ |
| Lehman Bros. Govt/Corp | $3.8 \%$ |
| NCREIF Property Index | $16.6 \%$ |
| MSCI EAFE | $26.3 \%$ |
| MSCI Emerging Markets | $32.2 \%$ |
| Alternative Assets | $(8.9) \%$ |
| 90-Day U.S. Treasury Bill | $4.9 \%$ |
|  |  |
| Investment Type |  |
| Domestic Equities |  |
| Domestic Fixed Income |  |
| Real Estate |  |
| International Equities |  |
| Alternative |  |
| Cash |  |
| Total |  |


| $\begin{array}{c}\text { Benchmark Components } \\ \text { and Rates of Return }\end{array}$ |  |
| :--- | ---: |
| S\&P 500 | $15.8 \%$ |
| Russell 2000 | $18.4 \%$ |
| Lehman Bros. Govt/Corp | $3.8 \%$ |
| NCREIF Property Index | $16.6 \%$ |
| MSCI EAFE | $26.3 \%$ |
| MSCI Emerging Markets | $32.2 \%$ |
| Alternative Assets | $(8.9) \%$ |
| 90-Day U.S. Treasury Bill | $4.9 \%$ |
|  |  |
| Investment Type |  |
| Domestic Equities |  |
| Domestic Fixed Income |  |
| Real Estate |  |
| International Equities |  |
| Alternative |  |
| Cash |  |
| Total |  |


| $\begin{array}{c}\text { Benchmark Components } \\ \text { and Rates of Return }\end{array}$ |  |
| :--- | ---: |
| S\&P 500 | $15.8 \%$ |
| Russell 2000 | $18.4 \%$ |
| Lehman Bros. Govt/Corp | $3.8 \%$ |
| NCREIF Property Index | $16.6 \%$ |
| MSCI EAFE | $26.3 \%$ |
| MSCI Emerging Markets | $32.2 \%$ |
| Alternative Assets | $(8.9) \%$ |
| 90-Day U.S. Treasury Bill | $4.9 \%$ |
|  |  |
| Investment Type |  |
| Domestic Equities |  |
| Domestic Fixed Income |  |
| Real Estate |  |
| International Equities |  |
| Alternative |  |
| Cash |  |
| Total |  |


| $\begin{array}{c}\text { Benchmark Components } \\ \text { and Rates of Return }\end{array}$ |  |
| :--- | ---: |
| S\&P 500 | $15.8 \%$ |
| Russell 2000 | $18.4 \%$ |
| Lehman Bros. Govt/Corp | $3.8 \%$ |
| NCREIF Property Index | $16.6 \%$ |
| MSCI EAFE | $26.3 \%$ |
| MSCI Emerging Markets | $32.2 \%$ |
| Alternative Assets | $(8.9) \%$ |
| 90-Day U.S. Treasury Bill | $4.9 \%$ |
|  |  |
| Investment Type |  |
| Domestic Equities |  |
| Domestic Fixed Income |  |
| Real Estate |  |
| International Equities |  |
| Alternative |  |
| Cash |  |
| Total |  |


| $\begin{array}{c}\text { Benchmark Components } \\ \text { and Rates of Return }\end{array}$ |  |
| :--- | ---: |
| S\&P 500 | $15.8 \%$ |
| Russell 2000 | $18.4 \%$ |
| Lehman Bros. Govt/Corp | $3.8 \%$ |
| NCREIF Property Index | $16.6 \%$ |
| MSCI EAFE | $26.3 \%$ |
| MSCI Emerging Markets | $32.2 \%$ |
| Alternative Assets | $(8.9) \%$ |
| 90-Day U.S. Treasury Bill | $4.9 \%$ |
|  |  |
| Investment Type |  |
| Domestic Equities |  |
| Domestic Fixed Income |  |
| Real Estate |  |
| International Equities |  |
| Alternative |  |
| Cash |  |
| Total |  |

                            \(\frac{\begin{array}{c}\text { Net Cash Flow } \\ \text { (Net of Fees) }\end{array}}{\text { (2250) }}\)
                                    \begin{tabular}{cc}
    \multicolumn{2}{c}{$\begin{array}{c}\text { Beginning } \\
\text { Market Value }\end{array}$} <br>
\hline$\$ \quad 453,618$ <br>
\& 170,497 <br>
\& 83,821 <br>
\& 263,505 <br>
\& 5,255 <br>
\& 6,928 <br>
\hline$\$$ \& $\mathbf{9 8 3 , 6 2 4}$ <br>
\hline
\end{tabular}

| Rates of Return (ROR) |  |
| :--- | ---: |
|  |  |
|  |  |
| OSA One-Year ROR | $15.6 \%$ |
| Plan One-Year ROR | $15.8 \%$ |
| Benchmark ROR | $16.1 \%$ |
| Actuarial Assumed ROR - Active | $8.5 \%$ |
| Actuarial Assumed ROR - Retired | $8.5 \%$ |
| OSA Three-Year ROR | $13.2 \%$ |
| OSA Five-Year ROR | $10.6 \%$ |
| OSA Ten-Year ROR | $9.4 \%$ |

                            Asset Class
    Domestic Equities

Domestic Fixed Income Real Estate

International Equities Alternative Investments ज

| $\begin{array}{c}\text { Actual } \\ \text { Asset Allocation }\end{array}$ |  |
| :--- | ---: |
| Domestic Equities | $50.0 \%$ |
| Bonds | $22.2 \%$ |
| International Equities | $16.6 \%$ |
| Alternative Assets | $10.4 \%$ |
| Cash | $0.8 \%$ |



 State Board of Investment - Basic Fund


| Rates of Return (ROR) |  |
| :--- | ---: |
|  |  |
| Plan One-Year ROR | $14.7 \%$ |
| Benchmark ROR | $14.9 \%$ |
| Actuarial Assumed ROR - Active | $8.5 \%$ |
| Plan Three-Year ROR | $12.6 \%$ |
| Plan Five-Year ROR | $9.1 \%$ |
| Plan Ten-Year ROR | $8.9 \%$ |


State Board of Investment - Post Fund
For the Year Ended December 31, 2006
(Dollars in Thousands)

| $\begin{array}{c}\text { Policy } \\ \text { Asset Allocation }\end{array}$ |  |
| :--- | ---: |
| Domestic Equities | $45.0 \%$ |
| Bonds | $25.0 \%$ |
| International Equities | $15.0 \%$ |
| Alternative Assets | $12.0 \%$ |
| Cash | $3.0 \%$ |


| Investment Return |  | Ending Market Value |  | Rate of Return |
| :---: | :---: | :---: | :---: | :---: |
| \$ | 1,508,329 | \$ | 11,843,921 | 14.5 \% |
|  | 250,514 |  | 5,539,971 | 4.7 \% |
|  | 853,172 |  | 3,959,977 | 27.0 \% |
|  | 350,940 |  | 1,960,404 | 21.8 \% |
|  | 19,169 |  | 429,322 | 4.7 \% |
|  | $(1,231)$ |  | 0 | 0.0 \% |
| \$ | 2,980,893 |  | 23,733,595 |  | | $\begin{array}{c}\text { Net Cash Flow } \\ \text { (Net of Fees) }\end{array}$ |
| ---: | ---: |
| $\$ \quad(34,467)$ |
| 514,968 |
| $(253,972)$ |
| $(111,194)$ |
| 340,870 |
| 1,231 |
| $\$ \quad 457,436$ |


| Beginning <br> Market Value |
| ---: | ---: |
| $\$ \quad 10,370,059$ |
| $4,774,489$ |
| $3,360,777$ |
| $1,720,658$ |
| 69,283 |
| 0 |
| $\mathbf{~ 2 0 , 2 9 5 , 2 6 6}$ |

${ }^{1}$ The Actuarial Assumed Rate of Return is comprised of a statutory $6.0 \%$ plus a guaranteed CPI-based COLA capped at $2.5 \%$.

2006 Appendix

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Table 1
Historical Rates of Return
For Calendar Years 1997 to 2006


in 2006.

Public Pension Plans
SBI - Post Fund

$$
\begin{gathered}
2004 \\
\hline 9.5 \% \\
10.6 \% \\
12.8 \% \\
10.1 \% \\
10.1 \% \\
10.2 \% \\
14.1 \% \\
13.0 \% \\
11.8 \%
\end{gathered}
$$





| Public Pension Plans |
| :--- |
| Bloomington Fire |
| Duluth Teachers' |
| MERF |
| Minneapolis Fire |
| Minneapolis Police |
| Minneapolis Teachers' |
| St. Paul Teachers' |
| SBI - Basic Fund |




$$
\begin{aligned}
& \text { N|ccccccccc} \\
& \text { (11.6)\% }
\end{aligned}
$$

* The Minneapolis Teachers' Retirement Fund Association was rolled into the Teachers' Retirement Association in 2006.
Table 3

| 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 |



| 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 5

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

$$
\begin{array}{r}
1998 \\
\hline \$ 1,330 \\
1,917 \\
5,367 \\
7,581 \\
6,069 \\
5,611 \\
4,389
\end{array}
$$

Note: This average is calculated by dividing Total Contributions by the Total number of members.

* The Minneapolis Teachers' Retirement Fund Association was rolled into the Teachers' Retirement Association in 2006.
Table 6
Average of Total Benefits Payments by Retired Member/Beneficiary






 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' $(6 / 30)$
Table 7
Percent Increase in Average of Total Benefits Payments by Retired Member/Beneficiary
and The Consumer Price Index
For Fiscal Years 1998 to 2006

| Public Pension Plans | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Consumer Price Index | 1.60 \% | 2.20 \% | 3.40 \% | 2.80 \% | 1.60 \% | 2.30 \% | 2.70 \% | 3.40 \% | 3.20 \% |
| Bloomington Fire (12/31) | 2.07 \% | 2.35 \% | 12.07 \% | 2.36 \% | 2.58 \% | 10.10 \% | (1.13)\% | 4.57 \% | 2.27 \% |
| Duluth Teachers' (6/30) | 8.32 \% | 9.12 \% | 5.62 \% | 9.76 \% | 7.99 \% | 3.71 \% | (0.36)\% | 4.06 \% | 1.91 \% |
| MERF (6/30) | 6.22 \% | 7.49 \% | 9.92 \% | 12.28 \% | 8.82 \% | 4.00 \% | 1.83 \% | 3.66 \% | 3.19 \% |
| Minneapolis Fire (12/31) | (8.33)\% | 28.73 \% | 0.42 \% | 5.15 \% | 0.73 \% | (16.57)\% | 10.75 \% | 0.20 \% | 2.97 \% |
| Minneapolis Police (12/31) | (8.09)\% | 5.90 \% | 17.46 \% | (1.71)\% | 1.39 \% | 2.91 \% | 4.52 \% | 4.96 \% | 3.27 \% |
| Minneapolis Teachers' (6/30) | 8.39 \% | 9.01 \% | 8.15 \% | 9.82 \% | 7.60 \% | 1.05 \% | 0.85 \% | 2.20 \% | * |
| St. Paul Teachers' (6/30) | 35.55 \% | 6.61 \% | 6.48 \% | 8.88 \% | 5.28 \% | 2.81 \% | 1.94 \% | 0.60 \% | 3.32 \% |
| Note: Beneficiaries include Retirees, Disabled members and Surviving Spouses. |  |  |  |  |  |  |  |  |  |

Table 8
Funded Ratio Percentage
For Fiscal Years 1998 to 2006
For Fiscal Years 1998 to 200

| Public Pension Plans | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Bloomington Fire (12/31) | 152.51 \% | 164.75 \% | 144.12 \% | 123.57 \% | 96.42 \% | 110.21 \% | 115.12 \% | 124.16 \% | 133.93 \% |
| Duluth Teachers' (6/30) | 95.10 \% | 99.20 \% | 103.80 \% | 107.60 \% | 100.40 \% | 95.70 \% | 91.80 \% | 86.40 \% | 84.10 \% |
| MERF (6/30) | 89.00 \% | 93.00 \% | 93.00 \% | 93.00 \% | 92.00 \% | 92.00 \% | 92.00 \% | 92.00 \% | 92.00 \% |
| Minneapolis Fire (12/31) | 105.40 \% | 109.20 \% | 107.50 \% | 103.90 \% | 87.20 \% | 80.60 \% | 90.20 \% | 86.20 \% | 87.50 \% |
| Minneapolis Police (12/31) | 93.40 \% | 95.40 \% | 87.50 \% | 75.10 \% | 66.80 \% | 64.50 \% | 68.60 \% | 77.30 \% | 85.70 \% |
| Minneapolis Teachers' (6/30) | 63.91 \% | 67.38 \% | 66.54 \% | 65.95 \% | 61.94 \% | 56.85 \% | 50.75 \% | 44.61 \% | * |
| St. Paul Teachers' (6/30) | 72.55 \% | 75.01 \% | 80.32 \% | 81.91 \% | 78.82 \% | 75.57 \% | 71.82 \% | 69.65 \% | 69.11 \% |

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

|  | 2006 |
| :---: | :---: |
| $\$ \quad 116,978,895$ |  |
|  | $281,950,173$ |
| $1,314,009,680$ |  |
| $265,244,602$ |  |
| $390,831,714$ |  |
|  | $*$ |
|  | $1,005,745,229$ |
| $\$ 3,374,760,293$ |  |






[^0]Note: These Net Assets only include any net assets that are "Held in Trust for Pension Benefits."

* The Minneapolis Teachers' Retirement Fund Association was rolled into the Teachers' Retirement Association in 2006.
Table 11
Average Total Net Assets by Total Members
For Fiscal Years 1998 to 2006

| 2006 |
| :---: |
| $\$ 401,989$ |
| 86,861 |
| 243,832 |
| 425,754 |
| 434,741 |
| $*$ |
| 101,141 | $\stackrel{N}{\infty}$



| $\mathbf{2 0 0 3}$ |
| ---: |
| $\$ 314,743$ |
| 66,203 |
| 204,124 |
| 362,828 |
| 337,297 |
| 54,272 |
| 79,028 |


| 2002 |
| ---: |
| $\$ 259,760$ |
| 68,230 |
| 206,426 |
| 318,232 |
| 281,650 |
| 59,332 |
| 81,017 |

$\stackrel{\rightharpoonup}{0}$
Note: This average is calculated by dividing the Total Net Assets by the Total Members.

* The Minneapolis Teachers' Retirement Fund Association was rolled into the Teachers' Retirement Association in 2006.
Table 12


高|cccccc
Average Actuarial Accrued Unfunded Liability by Total Members
For Fiscal Years 1998 to 2006

| 2000 | 2001 |  | 2002 |  | 2003 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| \$ $(109,109)$ | \$ | $(58,964)$ | \$ | 9,650 | \$ | $(29,166)$ |
| $(2,861)$ |  | $(5,857)$ |  | (316) |  | 3,619 |
| 15,516 |  | 17,517 |  | 21,075 |  | 21,609 |
| $(29,153)$ |  | $(15,720)$ |  | 52,646 |  | 82,557 |
| 54,690 |  | 114,563 |  | 156,321 |  | 172,181 |
| 44,085 |  | 44,321 |  | 48,639 |  | 53,931 |
| 22,756 |  | 21,394 |  | 25,469 |  | 30,312 |




| 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' $(6 / 30)$ |

Note: This average is calculated by dividing the Total Actuarial Accrued Unfunded Liability by the Total Members.

* The Minneapolis Teachers' Retirement Fund Association was rolled into the Teachers' Retirement Association in 2006
Table 13

| 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 14
Average Total Administrative Expense by Total Members


* The Minneapolis Teachers' Retirement Fund Association was rolled into the Teachers' Retirement Association in 2006.
Table 15




 bles.
* The Minneapolis Teachers' Retirement Fund Association was rolled into the Teachers' Retirement Association in 2006.
Table 16
Members at Fiscal Year End - Retiress \& Beneficiaries Receiving Benefits For Fiscal Years 1998 to 0206

\[

\]

| Public Pension Plans |
| :--- |
| Bloomington Fire $(12 / 31)^{1}$ |
| 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 |

${ }^{1}$ For the years of 1998 and 1999, Terminated Members, if any, includes Terminated 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.
Note: Investment Expenses exclude Securities Lending.
* The Minneapolis Teachers' Retirement Fund Associati
* The Minneapolis Teachers' Retirement Fund Association was rolled into the Teachers' Retirement Association in 2006
Figure 7
Administrative Expenses for Fiscal Year 2006
MERF - \$792,843

Duluth Teachers' - \$424,840



Bloomington Fire - \$71,254


Minneapolis Fire - \$586,587


- MERF - \$



[^0]:    ## Table 10

    | 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 |

