

COMMONWEALTH OF PENNSYLVANIA

State Employees' Retirement System

A Component Unit of the
Commonwealth of Pennsylvania

COMPREHENSIVE ANNUAL FINANCIAL REPORT

for the year ended December 31, 2002



Including the Independent Auditors' Report of Financial Statements
for the years ended December 31, 2002 and 2001

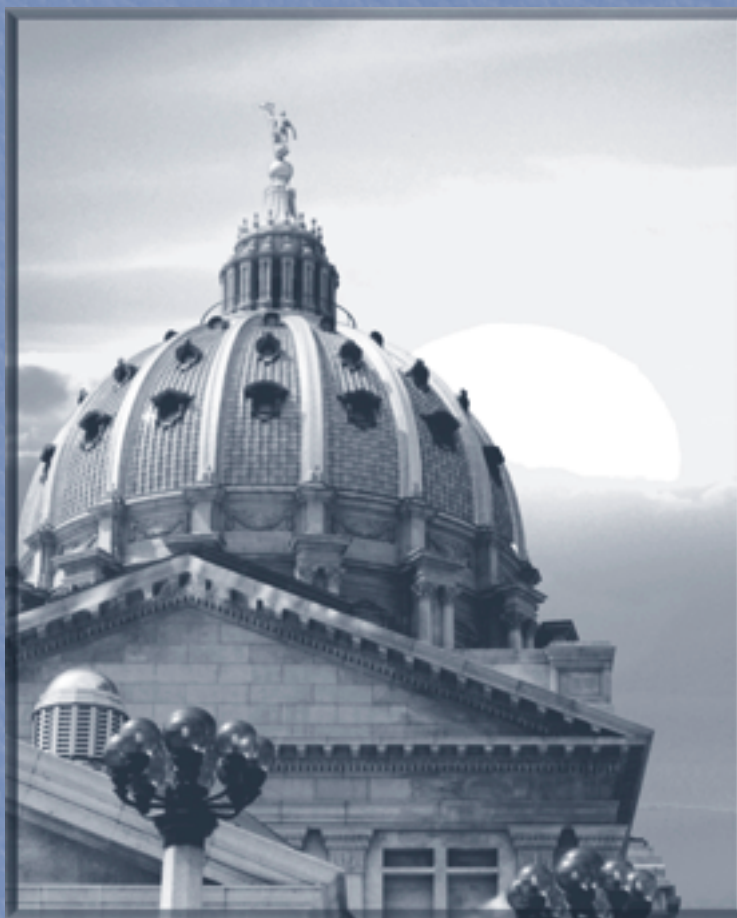
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John R. Brosius
Executive Director

Francis J. Donlevy
Director, Office of Financial Management

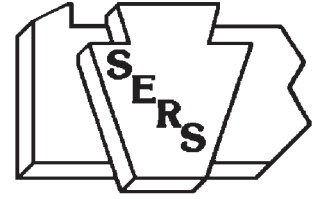
State Employees' Retirement System
30 North Third Street • P.O. Box 1147
Harrisburg, PA 17108-1147

Including the Independent Auditors' Report of Financial Statements
for the years ended December 31, 2002 and 2001



NICHOLAS J. MAIALE
CHAIRMAN

COMMONWEALTH OF PENNSYLVANIA
STATE EMPLOYEES' RETIREMENT SYSTEM
30 NORTH THIRD STREET
P.O. BOX 1147
HARRISBURG, PENNSYLVANIA 17108-1147
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June 2003

Honorable Edward G. Rendell, Governor
Commonwealth of Pennsylvania

Members, Pennsylvania General Assembly
Members, Pennsylvania State Employees' Retirement System

Dear Governor Rendell, Legislators and Members:

The Board of Trustees of the Pennsylvania State Employees' Retirement System (SERS) is pleased to present our *Comprehensive Annual Financial Report (CAFR)* on the SERS Fund for calendar year 2002.

Within the CAFR, you will find relevant financial, investment, and actuarial reports with introductions from SERS management and the funds' consulting actuary. Given the state of global investment markets and overall financial environment, SERS continues to encounter many challenges. However, as a result of long-term investment portfolio planning and the prudent management of Fund assets, the System is well prepared to meet its obligations and again this year maintains the fully funded status it has enjoyed since 1992.

SERS Board of Trustees has adopted several proactive corporate governance initiatives, such as *Investment Protection Principles*, which are designed to eliminate conflicts of interest among investment managers and broker dealers. In addition, Peter M. Gilbert, SERS Chief Investment Officer, had the honor of serving on The Conference Board's Blue Ribbon Commission on Public Trust and Private Enterprise, which was convened to address the circumstances which led to the recent corporate scandals and the subsequent decline of confidence in American capital markets. SERS' Board formally endorsed the Commission's *Findings and Recommendations on Executive Compensation, Corporate Governance, and Auditing and Accounting*, which recommend corporate best practices to rebuild confidence in the integrity, reliability and transparency of the capital markets.

SERS 11-member Board represents the interest of public employees, public employers, and the taxpayer, in careful balance. SERS Board, staff, and I will continue to pursue prudent long-term investment strategies to assure the solvency of the Fund and the quality of pension-related services to all SERS members.

Sincerely,

Nicholas J. Maiale
SERS Board Chairman

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Prepared by the staff of the Pennsylvania State Employees' Retirement System

Board of Trustees

Honorable Nicholas J. Maiale
Chairman



Michael J. Acker
Senior Vice President Triad Strategies



David R. Fillman
Executive Director, AFSCME Council 13



Honorable Gibson E. Armstrong
State Senator



Honorable Robert W. Godshall
State Representative



Honorable Robert A. Bittenbender
Former State Secretary of the Budget



Honorable Barbara Hafer
State Treasurer



Honorable Raphael J. Musto
State Senator



Honorable M. Joseph Rocks
Retired Member and Former State Senator



Honorable Thomas G. Paese
Former State Secretary of Administration



Honorable Michael R. Veon
State Representative



Mission Statement

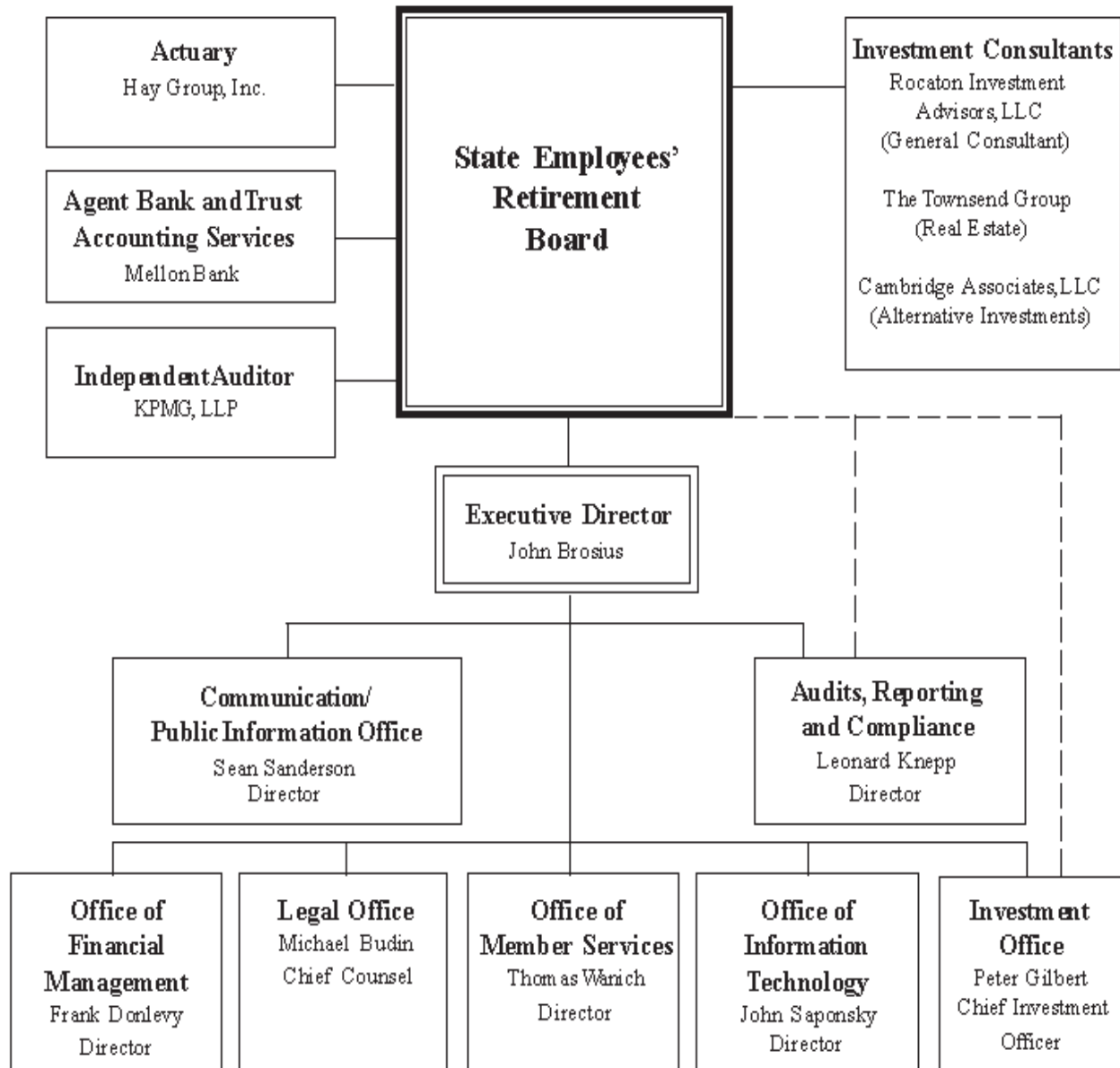
Plan Administration: To administer the retirement benefits plan for state employees and elected officials in accordance with Pennsylvania statutes;

Member Services: To provide effective services to all active and retired members;

Management of Retirement Fund Assets: To accumulate, manage and disburse the retirement Fund assets in accordance with fiduciary standards and at a reasonable cost to Commonwealth taxpayers;

Investment Policy: To maximize investment returns while exercising a prudent person investment policy.

SERS Organizational Chart



Administrative Support

John Brosius
Executive Director

Francis J. Donlevy
Director, Office of Financial Management

Peter M. Gilbert
Chief Investment Officer

Michael A. Budin
Chief Counsel

Thomas F. Brier
Andrew Deitch

Leonard M. Knepp
Director, Audits, Reporting and Compliance

Bruce Feldman
David J. Kalman

Thomas Wanich
Director, Office of Member Services

Mark McGrath
Karen N. Nicely

Sean Sanderson
Director of Communications

Adam Tosh

John C. Winchester
Investment Office Directors

Investment Consultants

Rocaton Investment Advisors, LLC
General Consultant

The Townsend Group
Real Estate Consultant

Cambridge Associates, LLC
Alternative Investments Consultant

General Service Providers

Hay Group, Inc.
Actuary

Mellon Bank
*Agent Bank and
Trust Accounting Services*

KPMG, LLP
Independent Auditor

Certificate of Achievement for Excellence in Financial Reporting

Presented to

Commonwealth of Pennsylvania
State Employees' Retirement
System

For its Comprehensive Annual
Financial Report
for the Fiscal Year Ended
December 31, 2001

A Certificate of Achievement for Excellence in Financial Reporting is presented by the Government Finance Officers Association of the United States and Canada to government units and public employee retirement systems whose comprehensive annual financial reports (CAFRs) achieve the highest standards in government accounting and financial reporting.



A handwritten signature in black ink, reading "William Patrick Rosta".

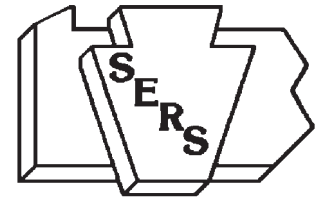
President

A handwritten signature in black ink, reading "Jeffrey R. Emer".

Executive Director



COMMONWEALTH OF PENNSYLVANIA
STATE EMPLOYEES' RETIREMENT SYSTEM
30 NORTH THIRD STREET - P.O. BOX 1147
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TOLLFREE: 1-800-633-5461
www.sers.state.pa.us



The Board of Trustees
Pennsylvania State Employees' Retirement System
Harrisburg, PA 17108-1147

June 10, 2003

Dear Mr. Chairman and Members of the Board:

We are pleased to present to you the Comprehensive Annual Financial Report (CAFR) of the Pennsylvania State Employees' Retirement System (the System or SERS) for the calendar year ended December 31, 2002.

Financial Information

The System's management is responsible for the preparation, accuracy and objectivity of the financial information included in this report. The basic financial statements are prepared in accordance with generally accepted accounting principles as promulgated by the Governmental Accounting Standards Board. Users of the financial statements are encouraged to review the Management's Discussion and Analysis (MD&A) which accompanies the basic financial statements and discusses the cause and effects of market conditions, legislation and changes in operations that affected the financial results of the System.

SERS maintains an effective system of internal controls designed to provide reasonable assurance that assets are properly safeguarded, transactions are properly executed and that the financial statements conform to generally accepted accounting principles. The System's Internal Audits, Reporting and Compliance department provides a continuing review of the adequacy and effectiveness of the System's internal control structure. Also, our independent external auditors, KPMG, conduct an annual audit of the financial statements in accordance with generally accepted auditing standards. Their audit includes tests and procedures designed to provide reasonable assurance that the financial statements are fairly presented. The external auditors have full and unrestricted access to the SERS Board of Trustees to discuss their audit and related findings regarding the integrity of financial reporting and adequacy of the internal control structure.

The System also receives independent financial audits on all of its private equity, venture capital, pooled real estate, and absolute return fund-of-funds limited partnerships, as well as audits for its directly held real estate portfolios. Additionally, the System receives audited statements on investments in collective trust funds, for example the BGI S&P 500 index fund and many of the emerging market funds.

Awards

We are very pleased to note that the Government Finance Officers Association of the United States and Canada (GFOA) again awarded the Certificate of Achievement for Excellence in Financial Reporting to the Pennsylvania State Employees' Retirement System for the year ended December 31, 2001. The Certificate of Achievement is a national award, recognizing conformance with the highest standards for preparation of a State and local government financial report.

In order to be awarded a Certificate of Achievement, a government must publish an easily readable and efficiently organized comprehensive annual financial report. This report must satisfy both generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year only. We believe that our current comprehensive annual financial report continues to meet the Certificate of Achievement Program's requirements, and we are submitting it to the GFOA to determine its eligibility for another certificate.

Business Plan

In addition to the investment and financial aspects of the Fund, the System has several business goals, which support our vision of providing the best information, education, and counseling to help our members plan and prepare for retirement security. First, the System is developing a thorough demographic study of its membership to facilitate workforce planning, succession planning, and retirement forecasting. The study will determine possible effects on the retirement fund and annuity payroll, employer contribution rate, retirement rates, and the number of new and retired members.

Second, to support increased work levels, SERS is documenting its work processes to provide a centralized reference for staff. The processes will enable SERS to enhance services to members and to reduce the amount of time it takes for new employees to reach full competency.

Third, by using technology and customer service best practices, SERS will develop a variety of innovative member education techniques. The new Customer Relationship Management (CRM) system will enable SERS to track and maintain all membership contacts.

Fourth, SERS will provide business continuity through effective disaster recovery strategies. These strategies will be tested on an ongoing basis and changes will be incorporated as needed to improve responses to various scenarios.

Fifth, the Board plans to conduct an investment fiduciary review of its governance processes to determine fiduciary soundness and accountability and to demonstrate to the members and taxpayers that the Fund is prudently managed. Areas to be examined include the Fund's organizational structure, resources, and internal controls/risk management as well as the Board's current investment policy, consultants' responsibilities, and due diligence procedures.

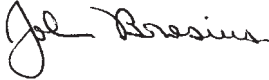
Finally, SERS will implement its 2003 annual five-year investment plan, which takes into account the current market conditions and challenges facing institutional investors. Current initiatives include maintaining the Plan's long-term asset allocation targets, and aggressively pursuing corporate governance initiatives to enhance levels of corporate accountability and restore investor confidence in the financial markets.

Acknowledgements

This report reflects the dedicated efforts of the SERS staff under the direction of the SERS Board of Trustees. We would like to take this opportunity to express our gratitude to you, the staff, our advisors and others who have worked diligently to administer the Plan, enhance delivery of member services and manage the Plan's assets in a prudent fashion.

We will continue to work hard administering the System in a manner which will ensure the accurate timely payment of benefits, prompt and courteous service delivery that will keep pace with our membership's changing needs, and to minimize the cost of the Fund to the taxpayers of the Commonwealth through prudent and diligent management of the Fund's assets.

Respectfully submitted,



John R. Brosius
Executive Director



Francis J. Donlevy
Director, Office of Financial Management

FINANCIAL



Independent Auditors' Report

30 North Third Street
Suite 200
Harrisburg, PA 17108



The Board of Trustees Commonwealth of Pennsylvania State Employees' Retirement System:

We have audited the accompanying statements of plan net assets of the Commonwealth of Pennsylvania State Employees' Retirement System (a component unit of the Commonwealth of Pennsylvania) as of December 31, 2002 and 2001, and the related statements of changes in plan net assets for the years then ended. These financial statements are the responsibility of the System's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the plan net assets of the Commonwealth of Pennsylvania State Employees' Retirement System as of December 31, 2002 and 2001, and its changes in plan net assets for the years then ended in conformity with accounting principles generally accepted in the United States of America.

The information included in Management's Discussion and Analysis and Required Supplemental Schedules 1 and 2 and the notes thereto is not a required part of the basic financial statements but is supplementary information required by the Governmental Accounting Standards Board. We have applied certain limited procedures, which consisted principally of inquiries of management regarding the methods of measurement and presentation of the supplementary information. However, we did not audit the information and express no opinion on it.

Our audits were made for the purpose of forming an opinion on the basic financial statements taken as a whole. The supplementary information included in Supplemental Schedules 1 and 2 is presented for purposes of additional analysis and is not a required part of the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and, in our opinion, is fairly stated in all material respects in relation to the basic financial statements taken as a whole.

KPMG LLP

June 9, 2003

Management's Discussion and Analysis

This section presents Management's Discussion and Analysis of the Pennsylvania State Employees' Retirement System's (the "System") financial statements and the significant events and conditions which affected the operations and performance of the System during the years ended December 31, 2002 and 2001.

Overview of the Financial Statements and Accompanying Information

- 1) **Fund Financial Statements.** The System presents Statements of Plan Net Assets as of December 31, 2002 and 2001 and Statements of Changes in Plan Net Assets for the years then ended. These statements reflect resources available for the payment of benefits as of year-end, and the sources and use of those funds during the year.
- 2) **Notes to Financial Statements.** The notes to financial statements are an integral part of the financial statements and have additional detailed information to provide a better understanding of the financial statements. Information in the notes discloses the System's organization, benefits and contributions, how asset values are determined, the use of derivatives in managing the System's assets, and contingencies and commitments.
- 3) **Required Supplementary Information.** The required supplementary information consists of two schedules and related notes concerning the funded status of the System and employer contributions and this Management's Discussion and Analysis.
- 4) **Other Supplementary Schedules.** Other schedules include detailed information on administrative expenses incurred by the System, a breakout of investment manager fees by asset class, and fees paid to consultants for professional services.

Financial Analysis

The System provides retirement benefits to the employees of the Commonwealth of Pennsylvania and certain other public agencies. The System's benefits are funded through member and employer contributions, and investment income. The net assets of the System decreased approximately \$3.8 billion and \$3.2 billion during the years ending December 31, 2002 and 2001, respectively, as reflected in the table on page 6, primarily due to the continued decline in global equity markets.

Funded Ratio

The funded ratio of the plan measures the ratio of actuarially determined assets against actuarial liabilities and is a good indicator of the fiscal strength of a pension fund's ability to meet obligations to its members. The System is required to perform an annual actuarial valuation by statute. The date of the most recent available valuation showed the funded status of the System declining to 107.2% at December 31, 2002 from 116.3% at December 31, 2001. The amount by which actuarially determined assets exceeded actuarially determined liabilities was \$1.8 billion and \$3.8 billion for the years ended December 2002 and 2001, respectively. The decrease in the funded ratio was due to continued weak global equity markets. The funded ratio may continue to decrease if investment returns fail to meet actuarial assumptions.

Management's Discussion and Analysis

Contributions and Income

Additions to Plan Net Assets include employer and member contributions and net income from investment activities. Member contributions were approximately \$304 million, \$241 million, and \$232 million for the years ended December 31, 2002, 2001 and 2000, respectively, an increase of approximately \$63 million in 2002. The increase in 2002 was due primarily to an increase in the member rate provided by the enactment of Act 9. The member contribution rate is set by statute and increased for most members to 6.25% from 5.0% of the members' gross salary. Employer contributions decreased to approximately \$51 million in 2002 from approximately \$77 million in 2001 and \$168 million in 2000. The decrease was based on annual actuarial valuations that reduced the employer composite rate to almost 0% of reported payroll, effective July 1, 2001, from 1.39% and 5.0% for the previous two years. The decrease in the rate was due to actual investment returns exceeding actuarial estimates for much of the 1990s. Accordingly, because recent investment returns have been below the actuarially assumed rate of 8.5%, the employer rate is projected to increase significantly in future years. Ultimately, the employer rate will be determined based on the outcome of market returns and recovery, and potential changes in plan demographics. The employer rate for most Class A and AA members, as defined, which includes over 90% of all state employees, was set at 0%. However, the System does continue to receive employer contributions for certain classes of employers, specifically law enforcement, judiciary and the legislature. Receipts for contributions for those members, along with transfers of employee contributions from other state retirement systems, comprised the balance of the employer contributions recognized during 2002 and 2001.

Net investment losses totaled approximately \$2.7 billion during 2002, and \$2.2 billion in 2001 versus net investment income of \$586 million in 2000, resulting in returns of -10.9%, -7.9%, and 2.2%, respectively. For the 10-year period ended December 31, 2002, the System earned a compounded rate of return of 8.4%. The decrease in investment income in 2002 and 2001 was the result of the downturn in global equity markets.

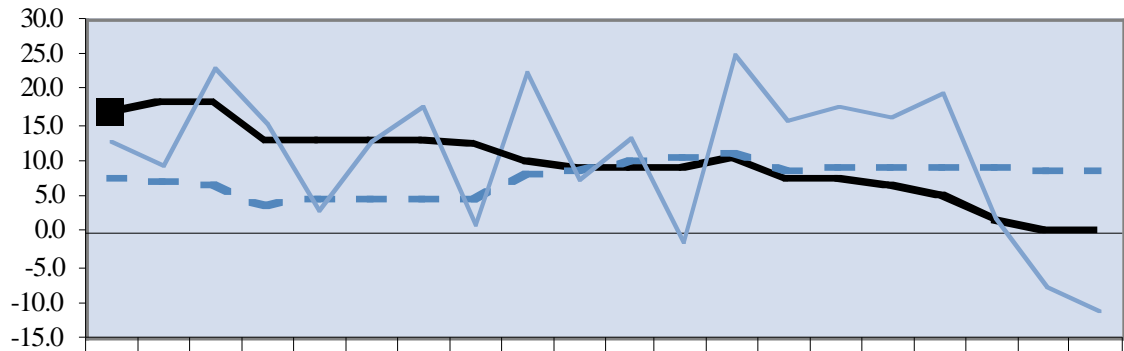
The most significant deduction from investment income is investment manager fees. The System's assets are managed 100% by external investment advisors hired by the Board of Trustees. Many of these managers are paid a fee based on the assets under management. Accordingly, those managers were generally compensated less than in prior years because of the effect of decreasing asset values. However, the industry practice for the general partners in limited partnership holdings is to pay fees based on commitments to the partnership. The \$4.4 million increase in investment expenses was due primarily to implementing the System's absolute return fund-of-fund strategies, offset by the termination of the tactical asset allocation program and decreased assets under management.

During 2001, the System's commitments to Alternative Investments increased by almost \$888 million from the prior year. Because of those increased commitments, investment expenses increased \$8 million from the year 2000.

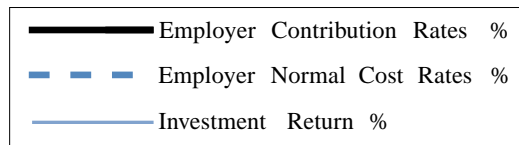
Prudent investment of the System's assets has enabled it to achieve and maintain fully funded status while decreasing the employer contribution rate. The composite employer rate, which had exceeded 12% as recently as 1990 and was as high as 18% in the early 1980's, has dropped to almost 0% in recent years. This has resulted in employer contributions decreasing from over \$418 million in 1990 to less than \$51 million in 2002. This is even more impressive when considering the active membership payroll has grown from \$3.2 billion in 1990 to over \$4.8 billion last year. The benefits of this performance pass directly back to the participating Commonwealth agencies and the taxpayers of Pennsylvania. See the chart on the following page which presents the relationship between Investment Returns and Contribution Rates. The Normal Cost is the cost of benefits to be earned in the coming year. In theory, if the unfunded actuarial liability were zero, and there was no deviation from the actuarial assumptions or amendments to the Retirement Code, the normal cost would be that amount required to fund the on-going liabilities for plan participants.

Management's Discussion and Analysis

History of SERS Employer Contribution Rates and Investment Return



| | '83 | '84 | '85 | '86 | '87 | '88 | '89 | '90 | '91 | '92 | '93 | '94 | '95 | '96 | '97 | '98 | '99 | '00 | '01 | '02 |
|-------------------------------|------|------|------|------|------|------|------|------|------|-----|------|-------|------|------|------|------|------|-----|-------|--------|
| Employer Contribution Rates % | 16.8 | 18.1 | 18.0 | 13.1 | 13.1 | 13.1 | 13.0 | 12.3 | 9.9 | 8.9 | 9.0 | 8.9 | 10.3 | 7.7 | 7.3 | 6.7 | 5.0 | 1.4 | - | - |
| Employer Normal Cost Rates % | 7.5 | 6.8 | 6.4 | 3.6 | 4.5 | 4.7 | 4.7 | 4.7 | 7.9 | 8.5 | 9.8 | 10.2 | 10.7 | 8.5 | 8.9 | 9.0 | 9.0 | 9.0 | 8.7 | 8.6 |
| Investment Return % | 13.0 | 9.4 | 23.1 | 15.2 | 3.3 | 12.8 | 17.8 | 1.0 | 22.6 | 7.4 | 13.2 | (1.1) | 25.2 | 15.9 | 18.0 | 16.3 | 19.9 | 2.2 | (7.9) | (10.9) |



Benefits, Refunds and Expenses

The most significant recurring deduction to Plan Net Assets is benefit payments. During 2002 and 2001, the System paid out approximately \$1.4 billion and \$1.2 billion, respectively, in benefits and refunds, an increase of approximately 15% in 2002. Those higher payments were due primarily to an increase in the number of retirees and the effect of Phase 1 of a two phase COLA which became effective July 1, 2002.

The COLA provided an average benefit increase of 13.86%. The table below shows the increase in retirees and monthly benefit payments since 2000. Benefits paid in 2001 increased from 2000 due to the increased number of retirees.

The administrative costs of the System represented less than 0.09% of average assets in both 2002 and 2001.

| | Dec 2002 | Dec 2001 | Dec 2000 |
|--------------------------|--------------|--------------|--------------|
| Monthly Benefit Payments | \$97 Million | \$86 Million | \$82 Million |
| Retirees | 91,228 | 89,217 | 88,392 |

Plan Assets

During 2002, investments allocated to domestic and international equity portfolios decreased approximately \$1.3 billion and \$1 billion, respectively. The decrease is attributable to the decline in global equity markets. The tactical asset allocation class was terminated in 2002 and the assets were transferred into the S&P 500 account and to the cash reserves for payment of benefits. Decreases in plan assets during 2001 were due to payment of benefits to members and weak global equity markets. One year returns on asset classes are presented in the table on the following page:

Management's Discussion and Analysis

| Asset Class | 2002 | 2001 | 2000 |
|---------------------------|----------------|---------------|--------------|
| Domestic Equities | -19.1 % | - 9.0 % | -6.5 % |
| International Equities | -16.0 | -15.6 | -6.8 |
| Fixed Income Securities | 6.8 | 5.2 | 7.6 |
| Cash / STIF | 2.4 | 3.4 | 6.3 |
| Tactical Asset Allocation | N/A | - 8.0 | -1.5 |
| Real Estate | 5.2 | 7.1 | 13.0 |
| Private Equity | -6.9 | -16.2 | 28.2 |
| Venture Capital | -27.0 | -36.2 | 92.7 |
| Commodities | 31.8 | N/A | N/A |
| Total | -10.9 % | -7.9 % | 2.2 % |

The System values its assets at “fair value” as discussed in the accounting policies footnote 2(c) to the financial statements. Fair value is the value the System expects to receive in a current sale between a willing buyer and a willing seller that are equally motivated; that is, other than a forced or liquidation sale. The value of publicly traded securities, stocks and bonds, are determined using the latest quote from national exchanges or pricing services. Those prices reflect the securities’ pricing at the close of business and are affected by such items as liquidity, current events and the size of lots being traded. Real Estate is valued using appraised values by approved appraisers who meet specified professional qualifications. The appraisal process involves a significant amount of judgment and estimates. As a result, the ultimate value on sale of the asset may differ from the appraised value.

Values for investments in private equity and venture capital limited partnership are determined by the general partners and by valuation committees. The partnerships’ investments, as well as the assumptions and estimates used in developing the investment values, are subject to an annual independent audit. Because the investments in those partnerships are generally illiquid and holding periods may last for several years, the ultimate value realized by the System on the disposition may differ from the estimated values reflected in our financial statements, and those differences could be material.

During 2002, the System allocated approximately \$2.5 billion dollars to absolute return fund-of-fund strategies. The advisors for those fund-of-funds invest in other fund managers with diverse investment strategies designed to provide positive returns, independent of the underlying financial markets, in both favorable and unfavorable market conditions. To reintroduce the market return, the System increased the use of derivatives by entering into approximately \$2.5 billion dollars of S&P 500 swaps in 2002. The combination of the S&P 500 swaps and the absolute return fund-of-funds, if successful, will earn S&P 500 returns plus an attractive excess return from the absolute return fund-of-funds.

The System earns additional investment income by lending investment securities to brokers. The brokers provide collateral to the System for borrowed securities equal to 102% of the borrowed securities. The System invests the collateral provided by the borrowers to earn interest. Income, net of expenses, from security lending is dependent on the volume of lending generated at the custodian bank. Net lending revenue during 2002 and 2001 was approximately \$8.4 million and \$9.9 million, respectively. While volumes were down in 2002, the System was able to earn higher margins due to demand for its small cap equity, corporate bond and international equity securities.

Act 2002-38

On April 23, 2002, the governor of Pennsylvania signed Act 2002-38 (Act 38) into law. The significant provisions of the bill were to pass a two-phase cost of living allowance (COLA). Members in the first phase, those who retired prior to July 2, 1990 will receive COLA increases ranging from 8.0% to 25.0% depending on their date of retirement effective July 1, 2002. Members in the second phase, those who retired between July 2, 1990 and July 1, 2002 will receive COLA increases ranging from 2.27% to 9.0% depending on their date of retirement effective July 2, 2003. Members of Class AA, T-D and D-4 were excluded from the COLA. These and other provisions of Act 38 are discussed in footnote 10 of the accompanying financial statements.

Management's Discussion and Analysis

CONDENSED FINANCIAL INFORMATION

Net Assets (in Millions)

| Assets | 2002 | Increase (Decrease) | 2001 | Increase (Decrease) | 2000 |
|------------------------------------|-----------------|------------------------|-----------------|------------------------|-----------------|
| Total Receivables | \$471 | \$187 | \$284 | (\$37) | \$321 |
| Total Investments | 21,343 | (3,815) | 25,158 | (3,226) | 28,384 |
| Security Lending Collateral Pool | <u>1,235</u> | <u>22</u> | <u>1,213</u> | <u>272</u> | <u>941</u> |
| Total Assets | <u>23,049</u> | <u>(3,606)</u> | <u>26,655</u> | <u>(2,991)</u> | <u>29,646</u> |
| Liabilities | | | | | |
| Accounts Payable | 40 | (4) | 44 | 2 | 42 |
| Investment Purchases Payable | 894 | 202 | 692 | (90) | 782 |
| Obligations Under Security Lending | 1,235 | 22 | 1,213 | 272 | 941 |
| Total Liabilities | <u>2,169</u> | <u>220</u> | <u>1,949</u> | <u>184</u> | <u>1,765</u> |
| Total Net Assets | <u>\$20,880</u> | <u>(\$3,826)</u> | <u>\$24,706</u> | <u>(\$3,175)</u> | <u>\$27,881</u> |

Changes in Net Assets

| Additions | 2002 | Increase (Decrease) | 2001 | Increase (Decrease) | 2000 |
|-------------------------|------------------|------------------------|------------------|------------------------|----------------|
| Member Contributions | \$304 | \$63 | \$241 | \$9 | \$232 |
| Employer Contributions | 51 | (26) | 77 | (91) | 168 |
| Investment Income | <u>(2,731)</u> | <u>(505)</u> | <u>(2,226)</u> | <u>(2,812)</u> | <u>586</u> |
| Total Additions | <u>(2,376)</u> | <u>(468)</u> | <u>(1,908)</u> | <u>(2,894)</u> | <u>986</u> |
| Benefits and Refunds | 1,430 | 185 | 1,245 | 68 | 1,177 |
| Administrative Expenses | <u>20</u> | <u>(1)</u> | <u>21</u> | <u>—</u> | <u>21</u> |
| Total Deductions | <u>1,450</u> | <u>184</u> | <u>1,266</u> | <u>68</u> | <u>1,198</u> |
| Decrease in Net Assets | <u>(\$3,826)</u> | <u>(\$652)</u> | <u>(\$3,174)</u> | <u>(\$2,962)</u> | <u>(\$212)</u> |

(Numbers may not add due to rounding)

Financial Statements

**COMMONWEALTH OF PENNSYLVANIA
STATE EMPLOYEES' RETIREMENT SYSTEM**
(a component unit of the Commonwealth of Pennsylvania)
Statements of Plan Net Assets
December 31, 2002 and 2001
(Amounts in thousands)

| | 2002 | 2001 |
|---|---------------------|-------------------|
| Assets: | | |
| Receivables: | | |
| Plan members | \$ 1,691 | 1,387 |
| Employers | 810 | 1,727 |
| Investment income | 93,821 | 89,571 |
| Investment proceeds | 371,654 | 186,976 |
| Miscellaneous | <u>2,916</u> | <u>4,512</u> |
| Total receivables | <u>470,892</u> | <u>284,173</u> |
| Investments: | | |
| Short-term investment funds | 738,513 | 810,937 |
| United States government securities | 2,466,865 | 2,004,768 |
| Corporate and foreign bonds and notes | 2,164,260 | 2,731,890 |
| Common and preferred stocks | 7,226,786 | 7,184,095 |
| Collective trust funds | 3,860,397 | 7,396,900 |
| Real estate | 2,422,563 | 2,532,751 |
| Alternative investments | <u>2,463,623</u> | <u>2,496,474</u> |
| Total investments | 21,343,007 | 25,157,815 |
| Securities lending collateral pool | <u>1,235,378</u> | <u>1,212,508</u> |
| Total assets | <u>23,049,277</u> | <u>26,654,496</u> |
| Liabilities: | | |
| Accounts payable and accrued expenses | 39,974 | 43,606 |
| Investment purchases | 894,366 | 692,319 |
| Obligations under securities lending | <u>1,235,378</u> | <u>1,212,508</u> |
| Total liabilities | <u>2,169,718</u> | <u>1,948,433</u> |
| Net assets held in trust for pension benefits | <u>\$20,879,559</u> | <u>24,706,063</u> |

(A Schedule of Funding Progress is presented on page 22.)

See accompanying notes to financial statements.

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STATE EMPLOYEES' RETIREMENT SYSTEM
(a component unit of the Commonwealth of Pennsylvania)
Statements of Changes in Plan Net Assets
December 31, 2002 and 2001
(Amounts in thousands)

| | <u>2002</u> | <u>2001</u> |
|--|---------------------|--------------------|
| Additions: | | |
| Contributions | | |
| Plan members | \$304,233 | 240,528 |
| Employers | <u>50,831</u> | <u>76,710</u> |
| Total contributions | <u>355,064</u> | <u>317,238</u> |
| Investment loss: | | |
| Net depreciation in fair value of investments | (1,915,634) | (1,790,575) |
| Collective trust fund depreciation and income | (1,310,044) | (1,014,578) |
| Interest | 303,421 | 388,626 |
| Dividends | 112,015 | 106,253 |
| Real estate | 193,719 | 182,423 |
| Miscellaneous | <u>30,035</u> | <u>41,111</u> |
| | (2,586,488) | (2,086,740) |
| Investment expenses | <u>(153,211)</u> | <u>(148,778)</u> |
| Net loss from investing activities | <u>(2,739,699)</u> | <u>(2,235,518)</u> |
| From securities lending activities: | | |
| Securities lending income | 26,696 | 54,813 |
| Securities lending expenses | <u>(18,292)</u> | <u>(44,922)</u> |
| Net income from securities lending activities | <u>8,404</u> | <u>9,891</u> |
| Total net investment loss | <u>(2,731,295)</u> | <u>(2,225,627)</u> |
| Total additions | <u>(2,376,231)</u> | <u>(1,908,389)</u> |
| Deductions: | | |
| Benefits | 1,426,257 | 1,237,953 |
| Refunds of contributions | 4,160 | 7,176 |
| Administrative expenses | <u>19,856</u> | <u>20,887</u> |
| Total deductions | <u>1,450,273</u> | <u>1,266,016</u> |
| Net decrease | (3,826,504) | (3,174,405) |
| Net assets held in trust for pension benefits: | | |
| Balance, beginning of year | <u>24,706,063</u> | <u>27,880,468</u> |
| Balance, end of year | <u>\$20,879,559</u> | <u>24,706,063</u> |

See accompanying notes to financial statements.

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STATE EMPLOYEES' RETIREMENT SYSTEM
(a component unit of the Commonwealth of Pennsylvania)
Notes to Financial Statements
December 31, 2002 and 2001
(Dollar amounts in thousands)

(1) Organization and Description of the System

(a) Organization

The Commonwealth of Pennsylvania State Employees' Retirement System (the System) was established as of June 27, 1923, under the provisions of Public Law 858, No. 331. The System was developed as an independent administrative board of the Commonwealth and is directed by a governing board that exercises control and management of the System, including the investment of its assets. The System's board has eleven members including the State Treasurer (ex officio), two Senators, two members of the House of Representatives, and six members appointed by the Governor, one of whom is an annuitant of the System. At least five board members are active members of the System and at least two have ten or more years of credited service. The Treasurer of the Commonwealth of Pennsylvania is the custodian of the System's funds.

The System is the administrator of a cost-sharing multiple-employer defined benefit retirement system established by the Commonwealth of Pennsylvania (Commonwealth) to provide pension benefits for employees of state government and certain independent agencies. The System is a component unit of the Commonwealth of Pennsylvania and is included in the Commonwealth's financial report as a pension trust fund. Administration costs are financed through contributions and investment earnings.

Membership in the System is mandatory for most state employees. Members and employees of the General Assembly, certain elected or appointed officials in the executive branch, department heads, and certain employees in the field of education are not required, but are given the option to participate. At December 31, 2002 and 2001, System membership consisted of:

| | <u>2002</u> | <u>2001</u> |
|--|----------------|----------------|
| Retirees and beneficiaries currently receiving benefits | 91,228 | 89,217 |
| Terminated employees entitled to benefits but not yet receiving them | 5,216 | 4,877 |
| Current active employees | <u>111,059</u> | <u>109,716</u> |
| Total members | <u>207,503</u> | <u>203,810</u> |
| Number of participating agencies | <u>105</u> | <u>106</u> |

COMMONWEALTH OF PENNSYLVANIA
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(b) Pension Benefits

The System provides retirement, death, and disability benefits. Cost of living adjustments (COLA) are provided at the discretion of the General Assembly. Article II of the Commonwealth of Pennsylvania's Constitution assigns the authority to establish and amend the benefit provision of the plan to the General Assembly.

Employees who retire at age 60 with 3 years of service, or with 35 years of service if under age 60, are entitled to a normal annual retirement benefit. Members of the General Assembly and certain employees classified in hazardous duty positions can retire with full benefits at age 50, with at least 3 years of service.

On May 17, 2001 Act 2001-9 (Act 9) was signed into law creating, among other things, a new class of service, Class AA. State employees hired after June 30, 2001 (except State Police officers and certain members of the judiciary and legislators), are Class AA members. Election into Class AA for members of Class A hired before that date was voluntary and substantially all members chose this option. The multiplier for Class AA is 1.25, which translates into an annual benefit of 2.5% of the member's highest three-year average salary times years of service and became effective for members July 1, 2001.

The general annual benefit for Class A members is 2% of the member's highest three-year average salary times years of service. State police are entitled to a benefit equal to a percentage of their highest annual salary, excluding their year of retirement. The benefit is 75% of salary for 25 or more years of service and 50% of salary for 20-24 years of service. Judges are entitled to a benefit of 4% of final average salary for each of the first 10 years of service and 3% for subsequent years. District Justices are entitled to a benefit of 3% of final average salary for each year of service. Act 9 also created a new class of service for current legislators, Class D-4. The multiplier for Class D-4 is 1.5, which translates into an annual benefit of 3% of the final average salary for each year of service.

Effective with the enactment of Act 9 into law, vesting requirements generally were reduced from 10 years to 5 years of credited service for current members of the System. Act 9 also amends the various provisions of the Code to provide that the new benefits in the Act will be funded over a ten-year period, with level dollar funding, beginning July 1, 2002. Act 9 also provides that all the existing actuarial liabilities and assets will be rolled together and refinanced over a ten year funding period, with level dollar funding beginning July 1, 2002. Future actuarial gains and losses are to be amortized using the ten-year level dollar funding.

According to the Retirement Code, all obligations of the System will be assumed by the Commonwealth should the System terminate.

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(c) Contributions

The System's funding policy, as set by the System's Board, provides for periodic active member contributions at statutory rates. The System's funding policy also provides for periodic employer contributions at actuarially determined rates, expressed as a percentage of annual covered payroll, such that they, along with employee contributions and an actuarially determined rate of investment return, are adequate to accumulate assets to pay benefits when due. A variation of the entry-age normal actuarial cost method is used to determine the liabilities and costs related to all of the System's benefits, including superannuation, withdrawal, death, and disability benefits, and to determine employer contribution rates. The significant difference between the method used for the System and the typical entry-age normal actuarial cost method is that the normal cost is based on the benefits and contributions for new employees rather than for all current employees from their date of entry. The System believes that this variation should produce approximately the same results as the typical method over the long run. These rates are computed based upon actuarial valuations on the System's fiscal year end of December 31 and applied to the Commonwealth based on its fiscal year end June 30; therefore, the employer contribution rates, in effect for the System's year-end of December 31, reflect a blended average of calculated rates. The blended contribution rates were as follows:

| | 2002 | 2001 |
|--|--------------------|---------------------|
| Employer normal cost | 8.68% | 8.87% |
| Amortization of unfunded actuarial assets in excess of liabilities | (11.70) | (10.63) |
| Amortization of supplemental annuities | <u>3.02</u> | <u>2.46</u> |
| Total employer cost | <u><u>0.0%</u></u> | <u><u>0.70%</u></u> |

Effective July 1, 2004, the minimum employer contribution rate will be set at 1%.

The general membership contribution rate for all Class A and Class AA members was 5% of salary through December 31, 2001. Effective January 1, 2002, the Class AA membership rate increased to 6.25%. The contribution rate for eligible members electing Class D-4 status increased to 7.5% effective July 1, 2001. Judges and district justices have the option of electing special membership classes requiring a contribution of 10% and 7.5%, respectively. All employee contributions are recorded in an individually identified account that is credited with interest, calculated at 4% per annum, as mandated by statute. Accumulated employee contributions and credited interest vest immediately and are returned to the employee upon termination of service if the employee is not eligible for other benefits.

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(2) Summary of Significant Accounting Policies

(a) Basis of Accounting

The financial statements of the System are prepared on the accrual basis of accounting under which expenses are recorded when the liability is incurred, revenues are recorded in the accounting period in which they are earned and become measurable, and investment purchases and sales are recorded as of their trade date. Member and employer contributions are recognized in the period in which employees' salaries are reported. Benefits and refunds are recognized when due and payable in accordance with the terms of the plan.

The System follows GASB guidance as applicable to proprietary funds and applies only those applicable Financial Accounting Standards Board (FASB) Statements and Interpretations, Accounting Principles Board Opinions, and Accounting Research Bulletins issued on or before November 30, 1989, that do not conflict with or contradict GASB pronouncements.

(b) Use of Estimates

Management of the System has made certain estimates and assumptions relating to the reporting of assets and liabilities, and the disclosure of contingent assets and liabilities, to prepare these financial statements in conformity with accounting principles generally accepted in the United States of America. Actual results could differ from those estimates.

Investments in venture capital, alternative investments, and real estate are generally illiquid. Because of the inherent uncertainty in valuing privately held securities, the fair value may differ from the values that would have been used had a ready market for such securities existed, and the difference can be material. Accordingly, the realized value received upon the sale of the asset may differ from the fair value.

(c) Investments

The System's investments are reported at fair value. Fair value is the amount that a plan can reasonably expect to receive for an investment in a current sale between a willing buyer and a willing seller – that is, other than in a forced or liquidation sale. The investments in short-term investment funds, including those managed by the Treasurer of the Commonwealth of Pennsylvania, are reported at cost plus allocated interest, which approximates fair value. The security lending collateral pool, which is a fund operated by the securities lending agent, also is accounted for at cost plus accrued interest, which approximates fair value. U.S. government obligations, corporate and foreign bonds and notes, and common and preferred stocks, are generally valued based on published market prices and quotations from national security exchanges and securities pricing services. Securities that are not traded on a national security exchange are valued by the asset manager or third parties based on similar sales. The System has entered into certain swap contracts with a notional amount equivalent to the System's original investment in the absolute return fund-of-funds limited partnerships to provide S&P 500 returns. The combination of the swaps and the underlying investments result in a return

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consistent with an actively managed equity portfolio. Accordingly, those investments have been classified as common stocks on the statement of net assets. Real estate is primarily valued based on appraisals performed by independent appraisers or, for properties not appraised, at the present value of the projected future net income stream. Alternative investments, which include interests in limited partnerships invested in venture capital, leveraged buyouts, private equities, and other investments are valued based on amounts established by valuation committees, which are subject to an annual independent audit. The values for real estate and alternative investments are reported on a one-quarter lag (September 30), adjusted for cash flows through December 31. Foreign exchange and futures contracts are marked-to-market daily with changes in fair value recognized as part of investments and investment income. The net values of swaps are determined no less than monthly based on the return of the underlying indices, which is generally exchanged for a short-term rate plus a spread.

The Collective Trust Funds (CTF) consist primarily of domestic and international institutional mutual and index funds. The funds do not pay interest or dividends to shareholders, and reinvest all income earned on securities held by the fund. The fair value of CTF is based on the reported share value of the respective fund.

Unsettled investment sales are reported as investment proceeds receivable and unsettled investment purchases are reported as investment purchases payable. Investment expenses consist of investment managers' fees and those administrative expenses directly related to the System's investment operations.

(d) Commitments

As of December 31, 2002 and 2001, the System had contractual commitments totaling approximately \$2.7 billion and \$2.8 billion, respectively, to fund future alternative investments and \$195 million and \$180 million to fund future real estate investments.

(e) Compensated Absences

The System accrues a liability for vacation leave as the benefits are earned by the employees to the extent the System will compensate the employee for the benefits through paid time off or some other means, such as cash payments at termination or retirement. Vacation leave vests 100% at the time it is earned up to 45 days, which is carried over to the next year at December 31. The System also accrues a liability for sick leave as the benefits are earned by the employees to the extent the System will compensate the employee for the benefits through cash payments at termination or retirement. Retiring employees of the System that meet service, age, or disability requirements are paid between 30% and 100% of sick days available at retirement, up to 163 maximum days. As of December 31, 2002 and 2001, \$2.5 million and \$2.2 million, respectively, were accrued for unused vacation and sick leave for the System's employees.

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(f) Federal Income Taxes

Management believes the System meets the definition of a Governmental Plan; in the System's communications with the Internal Revenue Service (IRS), it has been treated as a qualified plan, and is therefore considered exempt from federal income taxes. Therefore, the System has not requested a determination letter from the IRS relating to the status of the System under the Internal Revenue Code.

(g) Risk Management

The System is exposed to various liabilities and risks of loss related to theft or destruction of assets, injuries to employees, and court challenges to fiduciary decisions. To cover such risks, the System carries directors and officers' liability insurance, and fiduciary liability insurance. It also requires asset managers to carry appropriate insurance coverages. As an administrative agency of the Commonwealth, the System is accorded sovereign immunity, and it participates in a state property insurance program. As Commonwealth employees, the System's employees receive health insurance benefits, disability retirement benefits, and workers' compensation benefits. During the past three fiscal years, insurance settlements did not exceed insurance coverage.

(h) Reclassification

Certain 2001 balances have been reclassified to conform with the 2002 presentation.

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(3) Description of Funds

The Retirement Code requires the System to maintain the following funds representing the net assets held for future and current benefit payments:

The *Member Savings Account* accumulates contributions and interest earnings of active employees. Member balances are transferred to the Annuity Reserve Accounts as members retire.

The *State Accumulation Account* accumulates contributions of the employer and the net earnings of the fund. Funds are transferred to the Annuity Reserve Accounts as members retire. The amount transferred is determined actuarially.

The *Supplemental Annuity Account* accumulates contributions for supplemental annuities. The negative balances represent the liability for past cost of living adjustments that are being amortized to actuarial required contributions. The balance in this account is actuarially determined.

The *Annuity Reserve Accounts* are the accounts from which all death and retirement benefits and supplemental annuities are paid. The balance in this account is actuarially determined.

The *Interest Reserve Account* accumulates all income earned by the fund and from which all administrative and investment expenses incurred by the fund and the Board necessary for operation of the System are paid. Any balance in this reserve is transferred to the State Accumulation Account at year-end.

Fund balances at December 31, 2002 and 2001 are as follows:

| | <u>2002</u> | <u>2001</u> |
|------------------------------|---------------------|-------------------|
| Members Savings Account | \$3,498,672 | 3,344,107 |
| State Accumulation Account | 8,793,732 | 13,779,208 |
| Supplemental Annuity Account | (1,066,565) | (1,143,658) |
| Annuity Reserve Accounts: | | |
| Annuitants and Beneficiaries | 8,510,412 | 7,575,058 |
| State Police | 1,114,014 | 1,124,075 |
| Enforcement Officers | <u>29,294</u> | <u>27,273</u> |
| Total | <u>\$20,879,559</u> | <u>24,706,063</u> |

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(4) Investments

As provided by statute, the System's Board of Trustees (Board) has exclusive control and management responsibility of System funds and full power to invest the funds. In exercising its fiduciary responsibility to System membership, the Board is governed by the "prudent person" rule, which requires the exercise of due care in establishing investment policy, and has adopted its Statement of Investment Policy to formally document investment objectives and responsibilities. This policy, as well as applicable state law, establishes guidelines for permissible investments of the System, including all investment types held in the portfolio at December 31, 2002 and 2001, and at all times during those years.

The System's investments are categorized below to give an indication of the level of custodial credit (counterparty) risk assumed by the System at December 31, 2002 and 2001. In accordance with a contractual relationship between the Commonwealth's Treasury Department and its custodial agent, substantially all investments held by the custodian which are subject to categorization are held in book-entry form. Therefore, all such investments are in Category 1, which is defined as insured or registered investments for which the securities are held by the System or its agent in the System's name.

Investments also may be categorized as Category 2, which is defined as uninsured or unregistered investments for which the securities are held by the counterparty's trust department or agent in the System's name, and Category 3, which is defined as uninsured or unregistered investments for which the securities are held by the broker or dealer or by its agent, but not in the System's name. Additionally, the System has investments that are not in any of the three defined categories because securities are not used as evidence of the investment. Such investments are separately identified.

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| | 2002 | 2001 |
|---|---------------------|-------------------|
| Investments – Category 1: | | |
| United States government securities | \$ 1,792,059 | 1,579,085 |
| Corporate and foreign bonds and notes | 1,762,348 | 2,199,177 |
| Common and preferred stocks | 4,396,622 | 6,628,549 |
| Real estate investment trusts | <u>347,315</u> | <u>349,223</u> |
| Total Category 1 investments | <u>8,298,344</u> | <u>10,756,034</u> |
| Investments – not categorized: | | |
| Investments held by broker/dealers under securities lending agreement: | | |
| United States government securities | \$ 674,806 | 425,683 |
| Corporate and foreign bonds and notes | 314,173 | 434,837 |
| Common and preferred stocks | 321,354 | 355,546 |
| Short-term investment funds | 738,513 | 810,937 |
| Collective trust funds | 3,860,397 | 7,396,900 |
| Mortgage loans | 87,739 | 97,876 |
| Limited partnerships* | <u>7,047,681</u> | <u>4,880,002</u> |
| Total not-categorized investments | <u>13,044,663</u> | <u>14,401,781</u> |
| Total investments | <u>\$21,343,007</u> | <u>25,157,815</u> |

*Not categorized investments in limited partnerships include real estate, alternative investments, and absolute return fund-of-funds.

The System's real estate holdings that are located in the Commonwealth of Pennsylvania total approximately \$471 million and \$452 million or 19.4% and 17.8% of the real estate portfolio at December 31, 2002 and 2001, respectively. Concentrations of investments in a particular geographic area have certain risks and uncertainties associated with the concentration. The System's remaining real estate investments are not concentrated in any one geographic area or industry.

The System's investments in corporate and foreign bonds and notes include approximately \$767 million and \$774 million of high-yield bonds at December 31, 2002 and 2001, respectively.

(5) Securities Lending

In accordance with a contract between the Commonwealth's Treasurer and its custodian, the System participates in a securities lending program. State statutes neither specifically authorize nor prohibit the lending of the System's securities.

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The custodian, acting as lending agent, lends the System's equity, debt, and money market securities for cash, securities, or letter-of-credit collateral. Collateral is required at 102% of the fair value of the securities loaned except for the equity securities of non-U.S. corporations, for which collateral of 105% is required. Collateral is marked-to-market daily. If the collateral falls below guidelines for the fair value of the securities loaned, additional collateral is obtained. Cash collateral is invested by the lending agent in accordance with investment guidelines approved by the Board. The lending agent cannot pledge or sell securities collateral unless the borrower defaults.

As of December 31, 2002 and 2001, the System's credit exposure to individual borrowers was limited because the amounts the System owed the borrowers exceeded the amounts the borrowers owed the System. The Treasurer's contract with the lending agent requires the agent to indemnify the System if the borrowers fail to return the underlying securities and the collateral is inadequate to replace the loaned securities or if the borrowers fail to pay income distributions on the loaned securities.

All securities loans at December 31, 2002 and 2001 could be terminated on demand by either the lending agent or the borrower. Cash collateral is invested, together with the cash collateral on securities loans of other Commonwealth entities, in a short-term collective investment pool. The duration of the investments in the pool at December 31, 2002 and 2001 was 19 days and 26 days, respectively. The relationship between the average maturities of the investment pool and the System's loans is affected by the maturities of the loans made by other entities in the investment pool. In addition, the interest rate risk posed by mismatched maturities is affected by other program features, such as the lending agent's ability to reallocate securities loans among all of its lending customers.

As of December 31, 2002 and 2001, respectively, the fair value of loaned securities was \$1,310,333 and \$1,216,066; the fair value of the associated collateral was \$1,343,528 and \$1,251,086 of which \$1,235,378 and \$1,212,508 was cash.

Securities lent at year end are presented as unclassified in the preceding schedule of custodial credit risk. The securities lending collateral pool is not categorized because securities are not used as evidence of the investment.

(6) Derivative and Structured Financial Instruments and Restricted Assets

The System enters into certain derivative and structured financial instruments primarily to enhance the performance and reduce the volatility of its portfolio. It enters into foreign exchange contracts to hedge foreign currency exposure, futures contracts to gain or hedge exposure to certain equity markets and to manage interest rate risk, and swaps to gain equity exposure on its absolute return fund-of-funds investments, as well as hedge against the effects of inflation.

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Foreign exchange contracts are agreements to exchange the currency of one country for the currency of another country at an agreed-upon price and settlement date. The System uses these contracts primarily to hedge the currency exposure of its investments. To reduce the risk of counterparty nonperformance, the System generally enters into these contracts with institutions regarded as meeting high standards of credit worthiness. The unrealized gain/loss on contracts is included in the System's net assets and represents the fair value of the contract on December 31. At December 31, 2002 and 2001, the System's contracts to purchase and sell foreign currencies were as follows:

| | 2002 | | 2001 | |
|--------------------|-----------------|------------------------|-----------------|------------------------|
| | Notional amount | Unrealized gain (loss) | Notional amount | Unrealized gain (loss) |
| Purchase contracts | \$5,240,796 | (180,702) | 3,999,140 | 66,974 |
| Sell contracts | 5,189,305 | 129,211 | 3,113,334 | (43,500) |

Futures contracts are standardized, exchange-traded contracts to purchase or sell a specific financial instrument at a predetermined price. Gains and losses on futures contracts are settled daily based on a notional (underlying) principal value and do not involve an actual transfer of the specific instrument. Because of daily settlement, the futures contracts have no fair value.

The System has entered into certain futures contracts maturing through March 2004. The notional value of these contracts at December 31, 2002 and 2001 is as follows:

| | 2002 | | 2001 | |
|--------------------|---------------|----------------|---------------|----------------|
| | Buy contracts | Sell contracts | Buy contracts | Sell contracts |
| Eurodollar futures | \$ 27,378 | 47,960 | 9,246 | 155,711 |
| Euro bond futures | 49,443 | 41,345 | — | — |
| Japan bond futures | 51,475 | — | — | — |
| Treasury futures | 20,401 | 339,804 | 214,110 | 259,375 |
| S&P futures | 319,175 | 417 | 845,878 | 598 |

The exchange on which futures contracts are traded assumes the counterparty risk and generally requires margin payments to minimize such risk. The System pledges investment securities to provide the initial margin requirements on the futures contracts it buys. In addition to that collateral, the System also pledges securities on sales of securities that it does not presently own (short sales). The System enters into those short sales to neutralize the market risk of certain equity positions. The securities the System pledged as collateral on futures purchases and short sales at December 31, 2002 and 2001 represent restricted assets.

COMMONWEALTH OF PENNSYLVANIA
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December 31, 2002 and 2001
(Dollar amounts in thousands)

Swap agreements provide for periodic payments between parties based on the net difference in the cash flows of underlying assets, indexes, or rates. During 2002 and 2001, the System entered into swap arrangements to purchase commodity futures. Under the arrangement, the System receives the net return of the Goldman Sachs Commodity Index from the swap counterparty in return for the 90-day Treasury Bill rate, which it pays to the counterparty. The commodity swaps are used as an inflation hedge and settle on a monthly basis. In addition, during 2002, the System

also entered into swap arrangements to gain equity exposure on its absolute return fund-of-fund investments. Under those arrangements, the System receives the net return of the S&P 500 Total Return Index in exchange for a short-term rate plus a spread. The System uses multiple contracts with counterparties to diversify its credit risk. The contracts have varying maturity dates ranging from March 19, 2003 through December 19, 2003.

The table below presents the System's swap exposure at December 31:

| | <u>Notional value</u> | | <u>Receivable/(payable)</u> | |
|-----------------|-----------------------|-------------|-----------------------------|-------------|
| | 2002 | 2001 | 2002 | 2001 |
| Goldman Sachs | | | | |
| Commodity Index | \$ 324,503 | 250,000 | 25,000 | — |
| Interest rate | 32,600 | — | (729) | — |
| S&P 500 Total | | | | |
| Return Index | 2,378,538 | — | (191,169) | — |

The System generally requires collateral on these swaps based on the counterparty's credit rating in order to reduce the risk of counterparty nonperformance.

The System mitigates its legal risk on investment holdings, including the previously discussed instruments, by carefully selecting portfolio managers and extensively reviewing their documentation. It manages its exposure to market risk within risk limits set by management.

The System also indirectly holds foreign exchange contracts, futures contracts, and certain swap contracts through its investments in collective trust funds. Those collective trust funds directly and indirectly (through a securities lending collateral pool) invest in those instruments to hedge foreign exchange exposure, to synthetically create equity returns, and to manage interest rate risk by altering the average life of the portfolio.

(7) Commission Recapture Program

The System has commission recapture contracts with several brokers. These contracts generally stipulate that the brokers rebate a percentage of commissions earned on investments directly to the System. During the years ended December 31, 2002 and 2001, the System earned \$711 and \$664 of benefits resulting from a commission recapture program, respectively. The System used the program to pay approximately \$898 and \$1,466 of consulting, advisory, and other expenditures for the years ended December 31, 2002 and 2001, respectively. At December 31, 2002 and 2001, the System has accumulated \$2,079 and \$2,266, respectively, of benefits that are available for future expenditures.

COMMONWEALTH OF PENNSYLVANIA
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December 31, 2002 and 2001
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(8) Pension Plan for Employees of the System

The System also makes employer contributions. The System's employees' contribution requirements and benefits are described in note 1 to these financial statements. The System's contributions for the years ended December 31, 2002, 2001 and 2000 were \$0, \$27, and \$198, respectively, which were equal to the required contributions each year.

(9) Litigation and Contingencies

The System is involved in various individual lawsuits, generally related to benefit payments, which, if settled adversely, could increase estimated actuarial liabilities by up to \$1 billion. The individual cases involve legal issues that, if extended to the entire membership, may result in significant costs to the System. If such an event were to occur, the additional costs would be recovered by the System through adjustments to the employer contribution rate.

(10) COLA

On April 23, 2002, the Governor of Pennsylvania signed Act 2002-38 (Act 38) into law. HB 27 provided for, among other things, a two phase COLA for retired members. The bill excluded those members in Class AA, T-D and D-4. For annuitants retiring before July 2, 1990 the bill provided the following COLA:

Phase One, effective July 1, 2002:

| <i>Date of retirement</i> | <i>Percent Increase</i> |
|---|-------------------------|
| Before July 2, 1980 | 25.00% |
| Between July 2, 1980 through July 1, 1983 | 15.00% |
| Between July 2, 1983 through July 1, 1988 | 10.00% |
| Between July 2, 1988 through July 1, 1990 | 8.00% |
| Average expected increase | 13.86% |

Phase Two, effective July 2, 2003:

| <i>Date of retirement</i> | <i>Percent Increase</i> |
|---|-------------------------|
| Between July 2, 1990 through July 1, 1994 | 9.00% |
| Between July 2, 1994 through July 1, 1998 | 7.50% |
| Between July 2, 1998 through July 1, 1999 | 6.35% |
| Between July 2, 1999 through July 1, 2000 | 4.87% |
| Between July 2, 2000 through July 1, 2001 | 3.08% |
| Between July 2, 2001 through July 1, 2002 | 2.27% |
| Average expected increase | 6.99% |

The increased actuarial liabilities for the COLA were approximately \$257 million for Phase One and \$365 million for Phase Two. Funding for Phase One will commence on July 1, 2003 and funding for Phase Two will begin on July 1, 2004. The effect on the employer contribution rate is expected to be 0.77% and 1.16% for Phase One and Phase Two respectively. The cost of the COLA will be amortized under a 10-year level amortization schedule. Act 38 also enacted a minimum employer contribution floor rate of 1% beginning July 1, 2004.

Required Supplementary Information

**COMMONWEALTH OF PENNSYLVANIA
STATE EMPLOYEES' RETIREMENT SYSTEM**
(a component unit of the Commonwealth of Pennsylvania)
Required Supplemental Schedule 1 – Schedule of Funding Progress
(Unaudited)
(dollar amounts in millions)

| <u>Actuarial valuation year</u> | <u>Actuarial value of assets</u> | <u>Actuarial accrued liabilities (AAL)</u> | <u>Unfunded actuarial accrued liabilities (UAAL)</u> | <u>Ratio of assets to AAL</u> | <u>Covered payroll</u> | <u>UAAL as a percentage of covered payroll</u> |
|---|--|--|--|---------------------------------------|----------------------------|--|
| 2002 | \$ 27,498 | \$ 25,650 | \$ (1,848) | 107.2 % | \$ 5,093 | (36.3) % |
| 2001 | 27,505 | 23,659 | (3,846) | 116.3 | 4,872 | (78.9) |
| 2000 | 26,094 | 19,702 | (6,392) | 132.4 | 4,769 | (134.0) |
| 1999 | 23,624 | 19,092 | (4,532) | 123.7 | 4,519 | (100.3) |
| 1998 | 20,671 | 18,358 | (2,313) | 112.6 | 4,446 | (52.0) |
| 1997 | 18,565 | 17,288 | (1,277) | 107.4 | 4,219 | (30.3) |

Required Supplemental Schedule 2 – Schedule of Employer Contributions
(Unaudited)
(dollar amounts in thousands)

| <u>Year ended December 31,</u> | <u>Annual required contributions</u> | <u>Percentage contributed</u> |
|------------------------------------|--|-----------------------------------|
| 2002 | \$ 22,906 | 221.9 % |
| 2001 | 52,104 | 147.2 |
| 2000 | 168,002 | 100.0 |
| 1999 | 269,869 | 100.3 |
| 1998 | 310,501 | 100.0 |
| 1997 | 324,093 | 100.0 |

During the years 2002 and 2001, actual contributions exceeded the annual required contributions (ARC). For the period July 1, 2001 through December 31, 2002 the ARC was set at zero. However, the System required payment from certain agencies that provided age 50 retirement and from special classes for payment of past liabilities for retroactive benefit enhancements. Collection of those amounts resulted in the actual contributions exceeding the ARC. See accompanying notes to required supplemental schedules of funding progress and employer contributions.

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(a component unit of the Commonwealth of Pennsylvania)
Notes to Required Supplemental Schedules of Funding Progress and Employer Contributions
December 31, 2002 and 2001

Actuarial information as of the latest actuarial valuation:

| | |
|-----------------------------------|--|
| Valuation date | December 31, 2002 |
| Actuarial cost method (a) | Variation of entry age actuarial cost method |
| Amortization method (b) | 10 year schedule with level payments |
| Remaining amortization period (b) | 10 years, closed |
| Asset valuation method | 5-year smoothed market |
| Actuarial assumptions: | |
| Investments rates of return (c) | 8.5% |
| Projected salary increases (c) | 5.16% - 8.98%, average of 6.8% |
| Cost-of-living adjustments (d) | As described below |

- (a) A variation of the entry-age normal actuarial cost method is used to determine the liabilities and costs related to all of the System's benefits including superannuation, withdrawal, death and disability benefits. The significant difference between the method used for the System and the typical entry-age normal actuarial cost method is that the normal cost is based on the benefits and contributions for new employees rather than for all current employees from their date of entry. This variation should produce approximately the same results as the typical method over the long run.
- (b) The December 31, 2001 valuation included the effect of Act 9, which increased the actuarial accrued liabilities by approximately \$2.7 billion. In conjunction with the adoption of Act 9, the amortization method and remaining amortization period were changed as discussed in footnote 1(b) to the audited financial statements.
- (c) Includes inflation at 3%.

COMMONWEALTH OF PENNSYLVANIA
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Notes to Required Supplemental Schedules of Funding Progress and Employer Contributions

December 31, 2002 and 2001

- (d) Information presented in the required supplementary schedules was determined as part of the actuarial valuation at the dates indicated. The effects of cost of living adjustments to annuitants were included in the respective valuations as presented in the table below:

| Valuation Year | Effective Retirement Date | COLA Range (based on date of retirement) | Effective Date of COLA | Increase to Actuarial Accrued Liabilities |
|-------------------|---------------------------------|--|------------------------------|--|
| 2002 | On or before July 1, 1990 | 8.0% - 25.0% | July 1, 2002 | \$257 million |
| 2002 | July 2, 1990 - July 1, 2002 | 2.27% - 9.01% | July 2, 2003 | \$365 million |
| 1997 | On or before June 30, 1997 | 1.86% - 25.0% | July 1, 1998 | \$478 million |

Significant Changes in Prior Years

In the valuation years ended December 31, 1999, 1998, and 1997, actual investment earnings exceeded the expected rates of return, thereby causing an increase in the valuation years' actuarial value of assets reported in the schedule of funding progress and reduction in the following years' annual required contribution reported in the schedule of employer contributions. For the years ended December 2002, 2001 and 2000, actual investment earnings were less than expected rates and contributed to the decrease in the funding ratio in 2002.

Additional Financial Information

**COMMONWEALTH OF PENNSYLVANIA
STATE EMPLOYEES' RETIREMENT SYSTEM**
(a component unit of the Commonwealth of Pennsylvania)
Supplemental Schedule 1 - Schedule of Administrative Expenses
Year ended December 31, 2002
(Dollar amounts in thousands)

| | | |
|--|------------|------------------------|
| Personnel services: | | |
| Salaries | \$ 9,057 | |
| Benefits | 2,854 | |
| Temporary personnel wages, overtime, and outservice training | <u>316</u> | |
| Total personnel services | | \$12,227 |
| Professional services: | | |
| Consultant fees | 1,922 | |
| EDP contractual services vendor provided | 1,099 | |
| Commonwealth Central services | 525 | |
| Treasury Department services | 513 | |
| Legal fees | <u>26</u> | |
| Total professional services | | 4,085 |
| Rentals: | | |
| Real estate rent | 1,281 | |
| Other equipment rental | <u>297</u> | |
| Total rentals | | 1,578 |
| Communication: | | |
| Postage | 415 | |
| Telephone | 285 | |
| Printing and advertising | <u>104</u> | |
| Total communication | | 804 |
| Other expenses: | | |
| Supplies | 520 | |
| EDP software | 200 | |
| Maintenance | 194 | |
| Travel and conferences | 154 | |
| EDP and office equipment | 80 | |
| Subscriptions and memberships | <u>14</u> | |
| Total other expenses | | <u>1,162</u> |
| Total administrative expenses | | <u><u>\$19,856</u></u> |

COMMONWEALTH OF PENNSYLVANIA
STATE EMPLOYEES' RETIREMENT SYSTEM
(a component unit of the Commonwealth of Pennsylvania)
Supplemental Schedule 2 - Schedule of Investment Expenses and Consulting Fees
Year ended December 31, 2002
(Dollar amounts in thousands)

Investment Expenses

| | | Fees |
|-------------------------------|----|-------------|
| Investment manager fees: | | |
| Alternative investments | \$ | 76,388 |
| Stocks | | 44,680 |
| Real estate | | 19,219 |
| Fixed income | | 11,770 |
| Commodities | | 505 |
| | | 152,562 |
| Total investment manager fees | | 152,562 |
| Investment Related Expenses: | | |
| Alternative investments | | 243 |
| Custodial | | 216 |
| Fixed income | | 142 |
| Legal | | 48 |
| | | 649 |
| Total other fees | | 649 |
| Total investment expenses | \$ | 153,211 |

Consulting Fees

| Firm | Category | | Fees |
|------------------------------------|----------------------|----|-------------|
| Cambridge Associates Inc. | Private Equity | \$ | 896 |
| HayHuggins Company Inc. | Actuary | | 389 |
| The Townsend Group | Advisory Real Estate | | 204 |
| Rocaton Investments | General Investment | | 138 |
| Institutional Shareholder Services | Proxy Services | | 125 |
| BARRA Rogers' Casey, Inc. | General Investment | | 70 |
| Other | | | 100 |
| | | | 1,922 |
| Total consulting fees | | \$ | 1,922 |

INVESTMENT



Report on Investment Activity

*Peter M. Gilbert
Chief Investment Officer*

June 2003

Dear Members:

For the country, the financial markets and the Retirement System's investment program 2002 turned out to be an extension of the very difficult year 2001. The hangover from the collapse of the "internet bubble" and the broader financial markets, the weak economy, the war on terrorism and the series of accounting scandals made for a very troubled investment environment.

For the past few years we have been cautioning not to expect the double-digit returns of the 1990's to continue indefinitely. Unfortunately, the warning has been realized all too brutally. During the year the total fund produced a return of -10.9%. Although significant declines in the financial markets have taken a toll on Fund performance, SERS annualized return of 8.4% over the past ten years approximates the Fund's actuarial assumed rate of return of 8.5%. Thus, in spite of these declines over the most recent years, the Fund continues to enjoy a fully funded status and declining contributions to meet ever-increasing benefit obligations.

Most importantly, these returns have been earned in accordance with the investment policy and objectives set out by the Board of Trustees operating as fiduciaries in the sole interest of the beneficiaries and members of the Fund. The primary investment objective is to assure the adequate accumulation of reserves in the Fund at the least cost to the citizens of the Commonwealth while preserving the principal of the Fund against erosion from inflation. The objectives further state that the Board of Trustees seeks to meet these objectives within acceptable risk parameters through adherence to a policy of diversification of investments by type, industry, investment manager style and geographic location. As a long-term investor, this concept of diversification is key, as it allows the Fund to achieve its return objectives while at the same time reducing risk.

The SERS Investment Office, in conjunction with the Fund's three consultants, performs a review of the asset allocation annually, recommending any modifications to asset classes and future allocations. The results are reviewed and adopted by the Board of Trustees. The asset allocation decisions are among the most important decisions the Board of Trustees make in striving to achieve the Fund's investment objectives. Enabled by the passage of the Prudent Person legislation in 1994, the Fund has successfully broadened the range of diversification of asset classes in which we are able to invest. Perusal of the Investment Summary in the following pages will reveal the diversification of the asset classes and investment manager styles. In addition, the structure has been implemented in such a manner as to ensure broad diversification by industry and geographic location within, and across asset classes. Commensurate with the diversification is the reduction of risk the Fund has been able to achieve. In more colloquial terms, we are not trying to hit a home run or take one large bet; rather, we attempt to hit a lot of singles and spread our bets over a broad range of opportunities so that the odds are in our favor of achieving the Fund's long-term investment objectives.

The solid investment performance results over the past decade have been driven most notably by the extended bull market in U.S. stocks and a record-breaking ten-year expansion of the U.S. economy. During this period of rising markets and economic expansion we experienced historically low economic and financial volatility. We were blessed with both low inflation and low unemployment at the same time that growth had persisted. Most of the surprises during this time had been positive and on the upside. Because things had been so good, there was a tendency to underestimate risk going forward, but markets tend to run in cycles. The wonderful bull market we experienced in the 1990's has been replaced by the third worst

bear market in history with the S&P 500 Index declining 49% from its peak to trough. Furthermore, as of December 31, 2002, this bear market has matched the duration of the worst bear market during the “Great Depression” at 33 months.

In the last few years the U.S. stock market witnessed higher levels of volatility. The sustained market correction, fueled by weak corporate earnings, corporate scandals and the uncertainty about the U.S. economy resulted in a continuation of this trend through 2002. This uncertainty was not confined to the U.S., but permeated global stock markets as corporate earnings remained weak and local economies faltered. Consequently, negative stock market performance offset positive gains in the fixed income and real estate asset classes. The financial markets and consumer confidence remained shattered. Consequently, in 2002 the S&P 500 declined 21.5%, while the NASDAQ dropped 31.5%. In aggregate, overseas stocks declined 15.7%. These stock market declines contributed substantially to the 10.9% decline for the total Fund during 2002. However, even with the disappointing equity market returns over the past three years, SERS has maintained a funding ratio over 100%, meaning that assets are sufficient to meet liabilities.

The Fund experienced a continuation of this negative trend during the first quarter of 2003. However, with the advent of the second quarter there has been a sharp reversal in stock returns, both domestic and international. As of the writing of this letter, domestic stocks have appreciated in excess of 14% and international stocks approximately 12%. These strong gains complement the 10% gains in the fixed income asset class. If these domestic stock returns persist through the balance of the quarter, they will represent the second largest quarterly gain in the past 15 years. Such levels of performance has occurred prior to the transitioning from periods of slow to faster growth and are typical of gains seen at the beginning of most economic recoveries.

It is for these reasons that the Investment Office continuously monitors economic and market events and works to position the Fund through broad diversification to be in a position to address a variety of different economic scenarios. In addition, we continue to rebalance the Fund on an ongoing basis toward our long-term asset allocation objectives in combination with both new investments and the need to provide capital to meet benefit obligations. Outside of this activity, you will notice that structurally relatively little has changed from the prior year. Under the supervision and guidance of the Board of Trustees, we believe the Fund structure is sound and has the ability to endure under a variety of market environments. We believe the Fund is well positioned to ensure the members receive the financial security that they have earned and that is due them.

Sincerely,



Investment Policies

The State Employees' Retirement Board adopted a formal Statement of Investment Policy in 1979. It has been revised periodically, principally to reflect and incorporate legislative changes governing investments. The purpose of the statement is to formalize the Board's investment objectives, policies, and procedures: to establish guidelines for the investment of Fund assets, and to define the duties and responsibilities of the various entities involved in the investment process. The major elements of the statement are:

- ✓ As fiduciaries, the Board will exercise that degree of judgment, skill and care under the circumstances then prevailing which persons of prudence, discretion and intelligence, who are familiar with such matters, exercise in the management of their own affairs in investment matters;
- ✓ The Fund's overall investment objective is to provide a total rate of return, over full economic cycles, which exceeds the return of a fully diversified market portfolio within each asset class. The Board seeks to meet this objective within acceptable risk parameters through adherence to a policy of diversification of investments by type, industry, quality and geographic location;
- ✓ The Board employs an investment staff and also contracts with investment advisors and consultants to provide expert, professional judgment in all investment decisions;
- ✓ An annual Investment Plan is prepared to control the allocation of funds during the year among investment advisors and categories of assets;
- ✓ Guidelines are established for each category of assets used by the Fund's investment advisors to provide a framework for monitoring quality, diversification and liquidity; and
- ✓ Where investment characteristics, including yield, risk and liquidity, are equivalent, the Board's policy favors investments which have a positive impact on the economy of Pennsylvania

Investment Objectives

To assure an adequate accumulation of reserves in the Fund at the least cost to the citizens of the Commonwealth and to provide some protection against the erosion of principal by inflation, the long-term investment objectives of the Fund, are:

- ✓ Achieve and maintain the State Employees' Retirement Fund in excess of Actuarial Accrued Benefit Liability;
- ✓ Over the long run, achieve a positive real total rate of return (with inflation measured by the GDP Implicit Price Deflator);
- ✓ Over the long run, achieve an absolute total rate of return not less than the actuarial investment return assumption;
- ✓ Achieve in Domestic Stocks a total return that exceeds the total return of the Russell 3000 Index;
- ✓ Achieve in International Stocks a total return that exceeds the total return of the SERS Custom International Stock Index;
- ✓ Achieve in the Fixed Income asset class a total return that exceeds the total return of the SERS Fixed Income Custom Index;
- ✓ Achieve in the Equity Real Estate asset class a total return that exceeds the total return of the NCREIF Index;
- ✓ Achieve in the Cash asset class a total return that exceeds the total return on U.S. Treasury Bills (90 days);
- ✓ Achieve in the Venture Capital asset class a total return that exceeds either the Venture Economics' relevant Vintage Year Median Returns or relevant returns furnished for benchmark purposes by SERS's Venture Capital/Alternative Investments consultant;
- ✓ Achieve in the Alternative Investments asset class a total return that exceeds either market returns for similar types of alternative investments or relevant returns furnished for benchmark purposes by SERS's Venture Capital/Alternative Investments consultant.

Total return includes income and both realized and unrealized gains and losses and is computed on fair value. The Board seeks to meet these objectives within acceptable risk parameters through adherence to a policy of diversification of investments by type, industry, investment manager style and geographic location.

Investment Results

Schedule of Portfolio Returns* After Fees For the period ending December 31, 2002

| <u>Asset Class</u> | <u>1 Year Total Return</u> | <u>3 Year Total Return</u> | <u>5 Year Total Return</u> | <u>10 year Total Return</u> |
|---|------------------------------------|------------------------------------|------------------------------------|-------------------------------------|
| Domestic Stocks <i>Russell 3000 Index</i> ^{1/} | -19.1% -21.5% | -11.7% -13.7% | 0.2% -0.8% | 9.2% 8.8% |
| International Stocks <i>MSCI World ex US Index through 12/93; thereafter, SERS Custom International Stock Benchmark (26% Hedged)</i> ^{2/} | -16.0% -15.7% | -12.9% -15.0% | 0.6% -2.3% | 5.7% 3.8% |
| Fixed Income <i>SERS Custom Fixed Income Benchmark</i> ^{3/} | 6.8% 9.2% | 6.6% 7.1 % | 5.7% 5.7% | 7.5% 7.3% |
| Cash <i>90 day U.S. T-bills</i> | 2.4% 1.8% | 4.4% 4.1% | 4.8% 4.5% | 5.3% 4.6% |
| Real Estate ^{4/} <i>Townsend Stylized Benchmark</i> | 5.2% 5.2% | 8.4% 9.3% | 9.9% 10.3% | 8.7% 8.5% |
| Private Equity ^{4/} <i>Cambridge Private Equity Index</i> | -6.9% -8.8% | 0.0% -2.5% | 11.8% 7.0% | 13.2% 14.6% |
| Venture Capital ^{4/} <i>Cambridge Venture Capital Index</i> | -27.0% -29.4% | -3.6% 1.0% | 10.4% 22.4% | 14.6% 27.9% |
| Total Fund | -10.9% | -5.7% | 3.2% | 8.4% |
| <i>Total Fund Benchmark</i> | -10.3% | -6.6% | 2.5% | n/a |

* Returns for periods longer than one year are annualized.

Note: The performance calculations were prepared using a time-weighted rate of return based on the market rate of return in accordance with AIMR's Performance Presentation Standards.

^{1/} The Domestic Stocks Benchmark is the Wilshire 5000 Index through 12/31/98, and the Russell 3000 thereafter.

^{2/} The SERS Custom International Index is constructed by combining developed and emerging markets outside of the United States.

^{3/} The SERS Custom Bond Index is constructed using the following indices: 20% Lehman Brothers Intermediate Government Bond Index; 30% Lehman Brothers Long Term Government Bond Index; 25% Lehman Brothers Corporate Bond Index; and 25% Lehman Brothers Mortgage Backed Securities Index.

^{4/} Results for the Real Estate, Private Equity, and Venture Capital and lagged one quarter.

Asset Allocation

**COMMONWEALTH OF PENNSYLVANIA
STATE EMPLOYEES' RETIREMENT SYSTEM
Asset Allocation Report
December 31, 2002
(Unaudited)**

**Total Fund Summary
(millions)**

| Asset Type | Fair Value | % of Total Fund | 2002 Plan Policy Target |
|-------------------------|--------------------|-----------------------|----------------------------|
| Domestic Stocks | \$ 7,395.5 | 35.4% | 35.0 % |
| International Stocks | 4,066.0 | 19.4% | 19.0 % |
| Currency Overlay | (44.3) | -0.2% | 0.0 % |
| Fixed Income | 4,182.8 | 20.0% | 22.0 % |
| Cash | 112.4 | 0.5% | 0.0 % |
| Real Estate | 2,430.6 | 11.6% | 10.0 % |
| Alternative Investments | 2,440.3 | 11.7% | 12.0 % |
| Commodities | 325.0 | 1.6% | 2.0 % |
| Total Fund | <u>\$ 20,908.3</u> | <u>100.0 %</u> | <u>100.0 %</u> |

(Numbers in this report may not add due to rounding.)

**ASSET ALLOCATION
REPORT (continued)**

Dec 31, 2002

Unaudited

| Domestic Stocks | | | |
|---|--------------------------|----------------------------------|--------------------|
| Name | Fair Value (millions) | % of Total Domestic Stocks | % of Total Fund |
| Passively Managed Portfolios | | | |
| Barclays Global Investors - S&P 500 Index Fund | \$ 2,911.8 | 39.4% | 13.9% |
| Actively Managed Portfolios | | | |
| Artemis Investment Management | 94.4 | 1.3% | 0.5% |
| AXA Rosenberg Investment Management LLC | 307.4 | 4.2% | 1.5% |
| BAAM | 788.4 | 10.7% | 3.8% |
| BGI-Alpha Tilt | 209.7 | 2.8% | 1.0% |
| Clifton - Enhanced S&P 500 | 111.2 | 1.5% | 0.5% |
| Emerald Advisers - PA Portfolio | 96.1 | 1.3% | 0.5% |
| First Quadrant - Market Neutral | 49.3 | 0.7% | 0.2% |
| Iridian Asset Management | 294.7 | 4.0% | 1.4% |
| J.P. Morgan Investment Management | 131.0 | 1.8% | 0.6% |
| Martingale - Market Neutral | 56.0 | 0.8% | 0.3% |
| Mellon Equity Associates - PA Portfolio | 120.2 | 1.6% | 0.6% |
| Mellon Equity Associates - Special Equity | 209.4 | 2.8% | 1.0% |
| Mesirow Absolute Return | 586.0 | 7.9% | 2.8% |
| Morgan Stanley Alternative Inv Partners | 571.4 | 7.7% | 2.7% |
| Morgan Stanley Alternative Inv Partners Equitization** | (191.2) | -2.6% | -0.9% |
| PAAMCO Absolute Return | 570.2 | 7.7% | 2.7% |
| Provident Investment Counsel | 107.3 | 1.5% | 0.5% |
| Provident Investment Counsel - Stellar Fund | 124.8 | 1.7% | 0.6% |
| Standish Mellon Asset Management - Market Neutral | 50.5 | 0.7% | 0.2% |
| Trinity Small Cap Value | 118.1 | 1.6% | 0.6% |
| Twin Market Neutral | 53.7 | 0.7% | 0.3% |
| Warburg Pincus Stock Distribution Acct | 24.9 | 0.3% | 0.1% |
| <i>Total Actively Managed Portfolios</i> | 4,483.6 | 60.6% | 21.4% |
| Total Domestic Stocks | \$ 7,395.5 | 100.0% | 35.4% |

**The \$(191.2) million balance reported in the Morgan Stanley Alternative Investment Program is the accrued gain/(liability) of the fund and represents the net asset value adjustment for the equitization of the absolute return fund-of-fund account as of the reporting date.

**ASSET ALLOCATION
REPORT (continued)**

Dec 31, 2002

Unaudited

International Stocks - Integrated Developed & Emerging Markets

| Name | Fair Value (millions) | % of Total Integrated Developed & Emerging Markets | % of Total Fund |
|--|--------------------------|--|--------------------|
| Passively Managed Portfolios | | | |
| State Street Global Advisors - Australia and New Zealand | \$ 28.4 | 0.8% | 0.1% |
| State Street Global Advisors - Europe | 355.8 | 10.3% | 1.7% |
| <i>Total Passively Managed Portfolios</i> | 384.2 | 11.1% | 1.8% |
| Actively Managed Portfolios | | | |
| Credit Suisse Asset Management - global ex US | 343.1 | 9.9% | 1.6% |
| GAM Institutional Group Trust - Asia Pacific ex Japan | 98.5 | 2.8% | 0.5% |
| Henderson Global Investors (North America) - small cap | 156.5 | 4.5% | 0.7% |
| J.P. Morgan Investment Management - Japan | 288.8 | 8.3% | 1.4% |
| Marathon Asset Management - Europe | 312.6 | 9.0% | 1.5% |
| Merrill Lynch Investment Managers - small cap | 309.3 | 8.9% | 1.5% |
| Morgan Stanley - developed ex US | 625.6 | 18.1% | 3.0% |
| Morgan Stanley - Asia ex Japan | 63.0 | 1.8% | 0.3% |
| Pictet International Management - small cap | 170.4 | 4.9% | 0.8% |
| Scottish Widows Investment Partnership - Europe | 234.2 | 6.8% | 1.1% |
| Templeton Investment Counsel - global ex US | 479.1 | 13.8% | 2.3% |
| <i>Total Actively Managed Portfolios</i> | 3,081.0 | 88.9% | 14.7% |
| Total Integrated Developed & Emerging Markets | \$ 3,465.3 | 100.0% | 16.6% |

International Stocks - Dedicated Emerging Markets

| Name | Fair Value (millions) | % of Total Dedicated Emerging Markets | % of Total Fund |
|--|--------------------------|---|--------------------|
| Actively Managed Portfolios | | | |
| Capital International - Emerging Markets Growth Fund | \$ 130.4 | 21.7% | 0.6% |
| Marvin & Palmer Emerging Markets Equity, L.P. | 63.9 | 10.6% | 0.3% |
| OCM Emerging Markets Fund II, L.P. | 72.4 | 12.0% | 0.3% |
| OCM Emerging Markets Fund, L.P. | 55.8 | 9.3% | 0.3% |
| Pictet International Management - Emerging Markets | 103.9 | 17.3% | 0.5% |
| Templeton Strategic Emerging Markets Fund, L.P. | 82.1 | 13.7% | 0.4% |
| Templeton TIFI - Emerging Markets Series | 92.2 | 15.4% | 0.4% |
| <hr/> | | | |
| <i>Total Actively Managed Portfolios</i> | 600.7 | 100.0% | 2.9% |
| <hr/> | | | |
| | \$ 600.7 | 100.0% | 2.9% |
| <hr/> | | | |
| Total International Stocks | \$ 4,066.0 | 100.0% | 19.4% |

**ASSET ALLOCATION
REPORT (continued)**

Dec 31, 2002

Unaudited

Currency Overlay

| Name | Fair Value (millions) | % of Total Currency Overlay | % of Total Fund |
|-------------------------------|--------------------------|--------------------------------------|--------------------|
| Pareto Partners | \$ (18.1) | 40.9% | -0.1% |
| Record Treasury | (26.2) | 59.1% | -0.1% |
| Total Currency Overlay | \$ (44.3) | 100.0% | -0.2% |

Fixed Income

| Name | Fair Value (millions) | % of Total Fixed Income | % of Total Fund |
|---|--------------------------|----------------------------------|--------------------|
| Passively Managed Core Portfolios | | | |
| Mellon Bond Associates | \$ 481.4 | 11.5% | 2.3% |
| Actively Managed Core Portfolios | | | |
| Fischer Francis Trees & Watts - International | 361.9 | 8.7% | 1.7% |
| J. P. Morgan Investment Management | 526.8 | 12.6% | 2.5% |
| John Hancock | 200.6 | 4.8% | 1.0% |
| Legg Mason Real Estate Advisors | 57.1 | 1.4% | 0.3% |
| MDL Capital Management | 88.5 | 2.1% | 0.4% |
| Miller, Anderson & Sherrerd - Domestic | 831.8 | 19.9% | 4.0% |
| Miller, Anderson & Sherrerd - Global | 434.8 | 10.4% | 2.1% |
| Taplin Canida | 60.0 | 1.4% | 0.3% |
| Total Actively Managed Core Portfolios | 2,561.5 | 61.2% | 12.3% |
| Actively Managed High Yield Portfolios | | | |
| Berwind - PA Capital Fund | 12.3 | 0.3% | 0.1% |
| Fidelity Management Trust Company - CMBS | 197.1 | 4.7% | 0.9% |
| OCM Mezzanine Fund | 18.7 | 0.4% | 0.1% |
| PNC Equity - PA Capital Fund | 19.4 | 0.5% | 0.1% |
| Salomon Brothers | 498.2 | 11.9% | 2.4% |
| Trust Company of the West - Funds III | 0.0 | 0.0% | 0.0% |
| W. R. Huff Asset Management | 394.3 | 9.4% | 1.9% |
| Total Actively Managed High Yield Portfolios | 1,139.9 | 27.3% | 5.5% |
| Total Fixed Income | \$ 4,182.8 | 100.0% | 20.0% |

**ASSET ALLOCATION
REPORT (continued)**

Dec 31, 2002

Unaudited

| Cash | | | |
|----------------------------|--------------------------|--------------------|--------------------|
| Name | Fair Value (millions) | % of Total Cash | % of Total Fund |
| PA State Treasury - STIF * | \$ 112.4 | 100.0% | 0.5% |

* SERS investment advisors' cash balances are reflected within their own fair values but in fact are invested in the PA Treasury Short Term Investment Fund (STIF). The total STIF balance reported by the Master Trust Custodian was \$546.8 million at the end of the month.

**ASSET ALLOCATION
REPORT (continued)**

Dec 31, 2002

Unaudited

| Real Estate | | | |
|--|----------------------------------|---------------------------------------|----------------------------|
| Name | Fair Value (millions) | % of Total Real Estate | % of Total Fund |
| Separate Account Portfolios | | | |
| CRA Real Estate Securities | \$ 353.3 | 14.5% | 1.7% |
| Forest Investment Associates (FIA) | 141.3 | 5.8% | 0.7% |
| Heitman Capital Management | 211.4 | 8.7% | 1.0% |
| LaSalle Investment Management | 165.7 | 6.8% | 0.8% |
| Legg Mason Real Estate Services | 256.5 | 10.6% | 1.2% |
| Lowes Enterprises | 389.6 | 16.0% | 1.9% |
| Urdang Investment Management | 20.0 | 0.8% | 0.1% |
| <i>Total Separate Account Portfolios</i> | 1,537.6 | 63.3% | 7.4% |
| Pooled Fund Portfolios | | | |
| AEW - CIIF II | 2.2 | 0.1% | 0.0% |
| Apollo - AREF III | 53.1 | 2.2% | 0.3% |
| Berwind - BPG IV | 17.8 | 0.7% | 0.1% |
| Berwind - BPG V | 22.2 | 0.9% | 0.1% |
| Berwind - BPG VI | 1.2 | 0.0% | 0.0% |
| Blackstone - BREP II | 18.9 | 0.8% | 0.1% |
| Blackstone - BREP III | 34.5 | 1.4% | 0.2% |
| Cliffwood Select Equity Fund | 23.9 | 1.0% | 0.1% |
| Eastern Retail Holdings | 48.5 | 2.0% | 0.2% |
| Goldman Sachs - Whitehall V & VI | 31.8 | 1.3% | 0.2% |
| Heitman - California Land Venture | 0.0 | 0.0% | 0.0% |
| JMB Group Trust III | 0.2 | 0.0% | 0.0% |
| Lubert-Adler Fund II | 23.7 | 1.0% | 0.1% |
| Lubert-Adler Fund III | 17.6 | 0.7% | 0.1% |
| Miller Global Fund III | 19.7 | 0.8% | 0.1% |
| Oxford Development Fund | 50.9 | 2.1% | 0.2% |
| Prudential Senior Housing Partners | 26.6 | 1.1% | 0.1% |
| Prudential Senior Housing Partners II | 6.6 | 0.3% | 0.0% |
| Sentinel | 60.6 | 2.5% | 0.3% |
| Starwood Capital - SOFI IV | 31.7 | 1.3% | 0.2% |

| | | | |
|-------------------------------------|-------------------|---------------|--------------|
| Starwood Capital - SOFI V | 52.9 | 2.2% | 0.3% |
| Starwood Capital - SOFI VI | 6.8 | 0.3% | 0.0% |
| TCW Fund VI | 90.9 | 3.7% | 0.4% |
| UBS | 164.2 | 6.8% | 0.8% |
| Westbrook - WREF II | 16.0 | 0.7% | 0.1% |
| Westbrook - WREF III | 53.4 | 2.2% | 0.3% |
| Westbrook - WREF IV | 17.0 | 0.7% | 0.1% |
| <i>Total Pooled Fund Portfolios</i> | 893.0 | 36.7% | 4.3% |
| <i>Total Real Estate</i> | \$ 2,430.6 | 100.0% | 11.6% |

** Fair Values represent September 30, 2002 values as reported by the investment managers adjusted for allocations and distributions. Values for publicly traded REITs represent values reported as of December 31, 2002.

| ASSET ALLOCATION REPORT (continued) | Dec 31, 2002 | | Unaudited |
|--|----------------------------------|-----------------------------------|----------------------------|
| | Commodities | | |
| Name | Fair Value (millions) | % of Total Commodities | % of Total Fund |
| Actively Managed Portfolios | | | |
| NISA Investment Advisors | \$ 325.0 | 100.0% | 1.6% |

Largest Assets Held

| Domestic Equity | | International Equity | |
|------------------------------|-------------------|-----------------------------|-------------------|
| Holding | Fair Value | Holding | Fair Value |
| Microsoft | \$104,887,846 | BP PLC | \$48,817,753 |
| General Electric | 89,950,325 | Nestle SA CHF1 | 45,266,984 |
| Exxon Mobil | 86,699,335 | Total Fina Elf Eur10 | 42,969,401 |
| Wal Mart | 82,243,050 | Royal Dutch Petroleum | 42,673,397 |
| Pfizer | 69,968,810 | Vodafone Group | 42,283,930 |
| Citigroup | 68,704,109 | ENI Eur1 | 41,038,454 |
| Johnson & Johnson | 58,798,760 | Novartis Ag CHF 0.50 | 37,028,555 |
| American International Group | 55,945,921 | Aventis Eur 3.82 | 36,754,130 |
| IBM | 49,015,057 | Glaxosmithkline Ord | 34,997,124 |
| Merck | 46,626,867 | UBS Ag CHF 0.80 | 34,993,815 |

U.S. Government

| | |
|---|--------------|
| US Treasury Notes, 6.5%, February 15, 2010 | \$60,661,983 |
| US Treasury Bonds, 8.125%, August 15, 2019 | 45,851,305 |
| US Treasury Bond Strip Prin Pmt, 8.75%, August 15, 2020 | 43,284,844 |
| US Treasury Bonds, 8.75%, August 15, 2020 | 36,301,228 |
| US Treasury Bonds, 8.5%, February 15, 2020 | 34,597,440 |
| US Treasury Bonds, 8.125%, August 15, 2021 | 32,752,347 |
| US Treasury Bonds, 6.125%, August 15, 2029 | 30,889,519 |
| US Treasury Bonds, 5.25%, February 15, 2029 | 29,030,100 |
| US Treasury Notes, 2.125%, August 31, 2004 | 26,282,388 |
| US Treasury Bonds, 6.125%, November 15, 2027 | 25,279,199 |

Domestic Corporate Fixed Income

| | |
|--|--------------|
| Comcast Corp Sr Sub Deb, 10.625%, July 15, 2012 | \$15,415,510 |
| Citibank Cr Card Tr 01-A8, 4.1%, December 7, 2006 | 13,505,418 |
| Voicestream Wireless Corp Note, 10.375%, November 15, 2009 | 12,799,500 |
| Medpartners Inc New Sr Note, 7.375%, October 1, 2006 | 12,714,300 |
| Western Wireless Corp, 10.5%, February 1, 2007 | 12,164,100 |
| AT&T Wireless Services Inc Sr Note, 8.75%, March 1, 2031 | 11,216,100 |
| Nextel Communications Inc Sr, 9.5%, February 1, 2011 | 10,938,600 |
| Citibank Cr Card ISS 2000-A3, 6.875%, November 16, 2009 | 10,684,729 |
| First USA Cr Card 01-4 CL A, Floating Rate, January 12, 2009 | 10,020,100 |
| Stone Container Corp Sr Note, 9.75%, February 1, 2011 | 9,362,500 |

International Fixed Income

| | |
|---------------------------------------|--------------|
| France Govt, 6.5%, April 25, 2011 | \$71,416,122 |
| Spain Govt, 6.0%, January 31, 2008 | 44,633,627 |
| Japan Govt, 1.7%, March 22, 2010 | 37,238,472 |
| France Govt, 8.5%, October 25, 2019 | 34,812,016 |
| Canada Govt, 5.5%, June 1, 2009 | 31,838,289 |
| Japan Govt, 1.5%, December 20, 2011 | 30,085,523 |
| Belgium, 8.0%, March 28, 2015 | 24,782,693 |
| Sweden, 6.0%, February 9, 2005 | 24,060,418 |
| Germany, 6.5%, July 4, 2027 | 15,197,873 |
| Deutsche Telekom, Step, June 15, 2030 | 14,843,678 |

Schedule of Broker Commissions

Year Ended December 31, 2002

| <u>Broker</u> | <u>Commissions</u> | <u>Broker</u> | <u>Commissions</u> |
|-----------------------------|---------------------------|---------------------------------|---------------------------|
| Salomon Smith Barney | \$1,022,821 | Credit Lyonnais | \$101,702 |
| First Boston Corp | 989,575 | Prudential Securities | 100,708 |
| Merril Lynch | 785,955 | Paine Webber | 89,266 |
| Lehman Brothers | 552,275 | SG Cowen Securities | 88,295 |
| Morgan Stanley | 531,437 | Deutsche Securities | 84,551 |
| Goldman Sachs | 483,822 | Green Street Advisors | 84,042 |
| Instinet | 472,630 | Weeden & Company | 82,036 |
| Union Bank of Switzerland | 458,047 | Cheuvreux De Virieu | 80,840 |
| Deutsche Bank | 384,258 | Jones & Associates | 77,717 |
| J. P. Morgan | 381,309 | Ormes Capital Markets | 77,364 |
| Rochdale Securities | 329,207 | Nutmeg Securities | 76,299 |
| Investment Technology Group | 316,257 | Westminster Research Associates | 70,806 |
| B Trade Services | 302,227 | Daiwa Bank | 66,100 |
| James Capel | 295,541 | Oppenheimer | 60,346 |
| Cazenove | 253,621 | Wilshire Associates | 60,154 |
| Williams Capital Group | 248,067 | Societe Generale | 59,392 |
| Morgan Grenfell | 244,171 | ING Bank | 59,280 |
| Warburg Dillon Read | 237,025 | Liquidnet | 53,987 |
| Bear Stearns | 208,507 | HSBC Securities | 52,117 |
| Lynch Jones & Ryan | 194,428 | IBJ International | 51,861 |
| Jefferies & Company | 185,192 | Vickers Ballas | 49,064 |
| U.B.S. Securities | 182,398 | Dean Witter Reynolds | 46,311 |
| Kleinwort Benson | 179,965 | Capital Institutional Investors | 44,799 |
| Cantor Fitzgerald | 172,807 | Citation Group | 44,786 |
| Execution Services | 167,225 | Soundview Financial Group | 44,382 |
| Legg Mason | 145,113 | Intermonte Sec Cim | 43,480 |
| Montgomery Securities | 144,947 | PCS Securities | 42,990 |
| Heflin & Company | 135,290 | Enskilda Securities | 42,054 |
| First Union Capital Markets | 134,773 | Bank Of America | 41,795 |
| ABN AMRO | 132,453 | Nesbitt Burns | 40,597 |
| Nomura Bank International | 130,215 | Janus Fund | 39,507 |
| Spear Leeds & Kellogg | 125,574 | Knight Securities Broadcort | 38,946 |
| Carnegie | 118,553 | Collins Stewart | 38,676 |
| Hoare Govett | 115,964 | Bancboston Robertson Stephens | 38,278 |
| CI Nordic Securities | 111,450 | Magna Securities | 35,090 |
| SK International Securities | 110,685 | Janney Montgomery Scott | 34,738 |
| Dain Rauscher | 109,637 | Sal Oppenheim | 31,766 |

Schedule of Broker Commissions
(Continued)

| <u>Broker</u> | <u>Commissions</u> | <u>Broker</u> | <u>Commissions</u> |
|-------------------------------|--------------------|-------------------------------|----------------------------|
| Commerzbank | 31,606 | Williams De Broe | 16,731 |
| Friedman Billings | 31,465 | Toronto Dominion Bk | 16,464 |
| ABG Securities | 31,423 | Adams Harkness & Hill Inc, | 15,899 |
| Wexford Clearing Services | 31,272 | First Albany | 15,893 |
| International Netherlanden | 29,390 | Henderson Crosthwaite & Co. | 15,576 |
| Thomas & Weisel | 28,878 | W. I. Carr | 15,285 |
| Fidelity Capital Markets | 28,142 | Macquarie Bank | 14,818 |
| Dunwoody Brokerage Services | 27,994 | Sandler O'Neil | 14,551 |
| Hong Kong & Shanghai Bank | 27,846 | Ernst & Company | 14,450 |
| Neuberger & Berman | 27,020 | Standard And Poors Securities | 14,428 |
| Sanford C Bernstein & Co. | 26,981 | Bridge Trading Company | 14,154 |
| Banco Santander | 26,814 | Brazilian Securities | 14,051 |
| Donaldson Lufkin & Jenrette | 26,432 | Second Street Securities | 13,920 |
| Davy Stockbrokers | 26,094 | BNP Capital Markets | 13,423 |
| Petercam | 25,663 | Henderson Brothers Inc. | 13,416 |
| J. B. Were & Son | 25,581 | Sutro And Company | 13,223 |
| Troster Singer | 25,564 | Fox-Pitt Kelton | 13,129 |
| Julius Baer Securities | 25,166 | Lombard Odier Et Cie | 13,101 |
| Exane | 23,221 | Piper Jaffray & Hopwood | 12,887 |
| Mcdonald & Company Securities | 22,981 | DBS Securities | 12,767 |
| Monness | 22,548 | Seslia Securities | 12,604 |
| Archipelago BCC Capital | 21,831 | ISI Group | 12,437 |
| Jardine Fleming Brokering | 21,740 | RBC Dominion Secs Corp | 12,428 |
| Chase Manhattan Bank | 20,746 | Pulse Trading | 12,343 |
| William Blair & Company | 20,575 | Brockhouse And Cooper | 12,262 |
| J. Vontobel | 20,522 | Keefe Bruyette & Woods | 12,175 |
| Neue Zurich Bank | 20,388 | Phoenix Capital Markets | 11,942 |
| A. G. Edwards & Sons | 19,204 | Banque Paribas | 11,537 |
| Tsubasu Securities | 18,890 | Rabo Securities | 10,913 |
| Mackenzie Financial Corp | 18,217 | Bank Of New York | 10,855 |
| Hoening & Company | 18,045 | Gerard Klauer Mattison | 10,262 |
| CIBC World Mkts Inc | 17,818 | Correspondent Services | 10,113 |
| Pershing | 17,811 | Algemeine Bank | 10,027 |
| Autranet | 17,427 | Other (189) | 504,501 |
| NCB Stockbroker | 17,392 | | |
| Chemicals & Materials Ent | 17,172 | | |
| Midland Bk London | 16,998 | | |
| | | Total Commissions | <u>\$15,086,961</u> |

Investment Summary

The assets of the State Employees' Retirement System (SERS) are administered by the SERS Board of Trustees (Board). The Board has adopted an Investment Policy (Policy) that incorporates the provisions of the Retirement Code which govern the investment of SERS' assets. The Policy provides investment objectives and guidelines. An Investment Plan is reviewed and updated annually for strategic asset allocation purposes, as well as for diversification needs within each asset class.

Fair Value as of December 31, 2002: SERS' assets had an unaudited fair value of approximately \$20,908.3 billion on December 31, 2002.

| Asset Class | SERS Asset Allocation | | 2002 Target Allocation | Long-Term Target Allocation |
|-------------------------|------------------------------|--------|------------------------------|-----------------------------------|
| | Fair Value | | | |
| | (millions) | % | | |
| Domestic Stocks | \$7,395.5 | 35.4% | 35.0% | 33.0% |
| International Stocks | 4,066.0 | 19.4% | 19.0% | 18.0% |
| Currency Overlay | (44.3) | (0.2)% | 0.0% | 0.0% |
| Fixed Income | 4,182.8 | 20.0% | 22.0% | 25.0% |
| Cash | 112.4 | 0.5% | 0.0% | 0.0% |
| Real Estate | 2,430.6 | 11.6% | 10.0% | 8.0% |
| Alternative Investments | 2,440.3 | 11.7% | 12.0% | 14.0% |
| Commodities | 325.0 | 1.6% | 2.0% | 2.0% |
| Total | \$20,908.3 | 100.0% | 100.0% | 100.0% |

Number of Investment Advisors: SERS had 151 external investment advisory firms managing portfolios. There are 51 advisors in the Public Markets domain and 116 covered private equity and real estate. Some of these advisors managed portfolios across asset classes.

- 18 U.S. Stock advisors
- 14 International Stock advisors
- 2 Currency overlay advisors
- 15 Fixed Income advisors
- 1 Cash advisor
- 1 Commodity advisor
- 24 Real Estate advisors
- 41 Venture Capital general partners managing limited partnerships
- 53 Private Equity general partners managing limited partnerships

In addition, the Board approved the hiring of two fixed income advisors, one international stock advisor, one private equity partnership and one venture capital partnership.

Number of Investment Portfolios: SERS had 290 investment portfolios/accounts. Sixty-three of these accounts are public market investments, while 227 covered private markets.

- 23 U.S. Stock portfolios
- 20 International Stock portfolios
- 2 Currency overlay portfolios
- 16 Fixed Income portfolios
- 1 Cash portfolio
- 1 Commodity portfolio
- 41 Real Estate portfolios
- 84 Venture Capital limited partnership interests
- 102 Private Equity limited partnership interests

In addition, Board appointments include two fixed income accounts, one international stock account, two private equity partnerships, and two venture capital partnerships.

Sixty-seven investment advisors manage multiple portfolios within and across asset classes for SERS.

Summary of U.S. Stock Investments

U.S. stocks are one of eight major asset classes, which SERS uses to diversify the investments of the Fund. SERS' investment plan diversifies stock investments while maintaining a reasonable risk posture relative to the benchmarks. SERS contracts with external investment advisors to manage portfolios.

Policy: Stock investments are employed by the Fund primarily because their expected large return premiums versus inflation will, if realized, help preserve and enhance the real value of the Fund over long periods of time. The Stock asset class is managed on a total return basis.

SERS' long term investment objective in the U.S. Stock component of the Stock asset class is to achieve a total return, net of fees, that exceeds the total return of the Russell 3000 Index.

Stock investments shall emphasize, but not be limited to, publicly traded securities, which provide SERS with an equity interest in private sector concerns (e.g., common stock, preferred stock, convertible preferred stock, convertible bonds, etc.).

SERS' 2003 Investment Plan targeted a long-term allocation of 33.0% of assets to U.S. Stocks. The U.S. stocks structure reflects the broad U.S. market in terms of capitalization (large, medium, small). SERS U.S. stock portfolio, in aggregate, will strive to reflect the risk characteristics of the Russell 3000 Index, which is a good proxy for the broad, investable U.S. market. The 2003 plan targeted 67% of U.S. Stocks to be indexed. The 67% exposure includes funds that replicate the S&P 500 (37%) as well as the S&P 500 equitized absolute return fund of fund strategies (30%).

Fair Value as of December 31, 2002: U.S. Stocks had a \$7,395.5 million fair value, 35.4% of the total fund's \$20,908.3 million fair value on December 31, 2002.

Number of Investment Advisors: SERS had contracts with 18 external investment advisors to manage U.S. Stock portfolios.

Number of Investment Portfolios: SERS had 23 U.S. Stock portfolios managed by the 18 investment advisors.

Type of Investment Portfolios: As of December 31, 2002, 79.8% of SERS U.S. Stock allocation was in large/medium capitalization stock strategies, including the equitized fund of fund absolute return strategies, and 20.2% was in medium/small capitalization stock strategies. SERS had 20 actively managed portfolios (60.6% of U.S. Stocks) and one indexed portfolio (39.4% of U.S. Stocks). The active managers search out superior investment opportunities, while the indexed portfolio provides broad core diversification and is designed to provide market performance at a low cost. SERS also has one equitization manager for the absolute return strategies and utilizes one manager to manage the stock distributions that originate in the private equity portfolio.

| <i>U.S. Stock</i> | | *Fair Value as of 12/31/02 (millions) |
|--|--|--|
| Investment Advisor | Investment Style | |
| 1. Barclays Global Investors | S&P 500 Index Stock-based enhanced indexing | \$2,911.8 209.7 |
| 2. AXA Rosenberg Investment Management | Russell 2500, risk controlled | 307.4 |
| 3. Artemis | Small cap relative value stocks | 94.4 |
| 4. Blackstone Alternative Asset Management (BAAM) | Absolute return fund of funds | 788.4 |
| 5. Clifton Group | Derivative-based enhanced indexing | 111.2 |
| 6. Emerald | PA stocks | 96.1 |
| 7. First Quadrant | Equitized long/short U.S. market neutral | 49.3 |
| 8. Iridian Asset Management | Mid cap private business value | 294.7 |
| 9. J.P. Morgan Investment Management | S&P 500, risk controlled | 131.0 |
| 10. Martingale Asset Management | Equitized long/short U.S. market neutral | 56.0 |
| 11. Mellon Equity Associates | PA stocks | 120.2 |
| Standish, Mellon | Russell 2500, risk controlled (Special) | 209.4 |
| | Equitized long/short U.S. market neutral | 50.5 |
| 12. Mesirow Financial | Absolute return fund of funds | 586.0 |
| 13. Morgan Stanley Alternative Investment Partners | Absolute return strategy equitization | (191.2) |
| | Absolute return fund of funds | 571.4 |
| 14. PAAMCO Absolute Return | Absolute return fund of funds | 570.2 |
| 15. Provident Investment Counsel (PIC) | Mid cap aggressive growth stocks | 107.3 |
| PIC Stellar Fund | Small cap growth stocks | 124.8 |
| 16. Trinity Investment Management | Small cap low p/e stocks | 118.1 |
| 17. Twin Market Neutral | Equitized long/short U.S. market neutral | 53.7 |
| 18. Warburg-Pincus | Stock distribution manager | <u>24.9</u> |
| Total | | \$7,395.5 |

**Includes stocks and cash which the manager had available for investment. Numbers may not add due to rounding.*

Summary of International Stock Investments

International stocks is one of eight major asset classes that SERS uses to diversify the investments of the Fund. SERS' investment plan diversifies stock investments while maintaining a reasonable risk posture relative to the benchmarks. SERS contracts with external investment advisors to manage portfolios.

Policy: Stock investments are employed by the Fund primarily because their expected large return premiums versus inflation will help preserve and enhance the real value of the Fund over long periods of time. The Stock asset class is managed on a total return basis.

SERS' long term investment objective for the International Stock component of the Stock asset class is to achieve a total return, net of fees, that exceeds the total return from: Salomon Smith Barney World Equity Broad Market Index–Europe and Pacific, a proxy for stocks in developed markets, and MSCI Emerging Markets Free Index, a proxy for stocks in emerging markets.

SERS' 2002 Investment Plan targeted a long–term allocation of 15% of assets to international stocks in developed markets and 3% to stocks in emerging markets.

Fair Value as of December 31, 2002: International Stocks had a \$4,066.0 million fair value, 19.4% of the total Fund's \$20,908.3 million fair value on December 31, 2002. In addition, the fair value of forward exchange contracts in the currency overlay program amounted to –\$44.3 million.

Number of Investment Advisors: SERS had contracts with 14 external investment advisors to manage International stock portfolios. In addition, SERS had contracts with 2 external advisors to manage a currency overlay program.

Number of Investment Portfolios: SERS had 20 stock portfolios managed by the 14 investment advisors and 2 accounts for the currency overlay program.

Type of Investment Portfolios: As of December 31, 2002, SERS had 18 actively managed international portfolios and two indexed portfolios. Sixteen percent of total Fund assets were allocated to stocks in developed markets and 3.5% were allocated to emerging markets.

| <i>International Stock</i> Investment Advisor | Investment Style | *Fair Value as of 12/31/02 (millions) |
|---|--|---|
| 1. State Street Global Advisors Europe Australia and New Zealand | Europe - index Australia and New Zealand - index | \$ 355.8 28.4 |
| 2. Capital International, Inc. Emerging Markets Growth Fund, Inc. | Emerging markets - value and growth | 130.4 |
| 3. Credit Suisse Asset Management, LLC | Developed and emerging markets - GARP stocks | 343.1 |
| 4. GAM International Management Ltd GAM Institutional Group Trust | Pacific Basin ex Japan | 98.5 |
| 5. Henderson Global Investors (North America) Inc. | Small cap developed markets - value and growth | 156.5 |
| 6. Marathon Asset Management Limited | Europe - relative value sectors | 312.6 |
| 7. Marvin & Palmer Emerging Markets Equity, L.P. | Emerging markets – growth momentum | 63.9 |
| 8. Merrill Lynch Investment Managers International Limited | Small cap developed markets - growth | 309.3 |
| 9. J.P. Morgan Investment Management Inc. | Japan - benchmark risk control | 288.8 |
| 10. Morgan Stanley Investment Management Inc. London team Singapore team | Developed markets - value Asia ex Japan - growth | 625.6 63.0 |
| 11. Oaktree Capital Management, LLC OCM Emerging Markets Feeder Fund II, L.P. OCM Emerging Markets Feeder Fund, L.P. | Emerging markets - hedge fund Emerging markets - hedge fund | 72.4 55.8 |
| 12. Pictet International Management Limited International small cap equity portfolio Emerging markets equity portfolio | Small cap developed markets Emerging markets | 170.4 103.9 |
| 13. Scottish Widows Investment Partnership Ltd | Europe - growth and value | 234.2 |
| 14. Templeton Investment Counsel, LLC Templeton Investment Counsel, Ltd. Global emerging markets team Templeton Strategic Emerging Markets Fund, L.P. TIFI Emerging Markets Series Total International Stocks | Developed and emerging markets - value Emerging markets Emerging markets - value | 479.1 82.1 92.2 <u>\$4,066.0</u> |
| 1. Pareto Partners | Currency overlay | \$ (18.1) |
| 2. Record Treasury | Currency overlay | <u>(26.2)</u> |
| Total Currency Overlay | | <u>\$ (44.3)</u> |
| Total International and Currency Overlay | | \$4,021.7 |

**Includes stocks and cash which the manager had available for investment. Numbers may not add due to rounding.*

Summary of Fixed Income Investments

Fixed Income is one of eight major asset classes that SERS uses to diversify the investments of the Fund. The SERS' Investment Plan diversifies Fixed Income investments and balances Fixed Income management styles. SERS contracts with external investment advisors to manage portfolios.

Policy: The Fixed Income asset class is employed by the Fund because of its ability to generate current income from interest payments, increase the value of the Fund through the reinvestment of those interest payments, serve as a Benefit Payment Reserve during periods of financial stress, serve as a hedge against disinflation and/or deflation and to help diversify the overall Fund. The Fixed Income asset class is managed on a total return basis.

In the Fixed Income asset class, SERS' long-term investment objective is to achieve a total return, net of fees, that exceeds the total return of the SERS Custom Fixed Income Index.

SERS' 2002 Investment Plan targets a long-term allocation of 25.0% of assets of the total Fund to the Fixed Income asset class. Of this amount, 80% is targeted to the core strategies and 20% to specialty strategies.

As a result of the increased emphasis on the benefit payment reserve within fixed income, the purpose of the specialty strategies are playing a lesser role in the fixed income asset class. The specialty strategies consist of two corporate high yield portfolios, two subordinated debt portfolios, and one high yield commercial mortgage-backed securities portfolio. In addition, emerging market debt, a growing and important part of the global fixed income universe, is used opportunistically within the corporate high yield portfolios with an allocation of up to 20% in each of these portfolios.

Fair Value as of December 31, 2002: Fixed Income had a \$4,182.8 million fair value, 20.0% of the total Fund's \$20,908.3 million fair value, on December 31, 2002.

Number of Investment Advisors: SERS had contracts with 15 external investment advisors to manage portfolios within the Fixed Income asset class as of December 31, 2002.

Number of Investment Portfolios: SERS had a total of 16 portfolios within the Fixed Income asset class.

Type of Investment Portfolios: The Fixed Income asset class is divided into core and high yield segments. Core portfolios invest in relatively liquid, high quality, fixed income securities that meet return, disinflation/deflation, benefit reserve payments and diversification needs of the Fund. High yield portfolios focus on debt instruments offering higher return premiums and different risk characteristics than traditional fixed income securities.

Core: SERS had eight actively managed core bond portfolios with a fair value of \$2,561.5 million and one passively managed core bond portfolio with a fair value of \$481.4 million. The combination of core portfolios represented 72.7% of the asset class. The core portfolio segment of the asset class includes exposure to both international and global fixed income.

Specialty: SERS had two corporate high yield portfolios with a fair value of \$892.5 million, one high yield commercial mortgage-backed securities portfolio with a fair value of \$197.1 million, and two subordinated debt portfolios with a fair value of \$31.7 million that invest in profitable Pennsylvania companies and an interest in a mezzanine level pooled fund for \$18.7 million. In addition, there is a special credits portfolio with a value of \$0.1 million that is winding down. The combination of specialty portfolios represented 27.3% of the asset class.

| <i>Fixed Income</i> Investment Advisor | Investment Style | *Fair Value as of 12/31/02 (millions) |
|---|---------------------------------------|--|
| <u>Core</u> | | |
| 1. Fischer Francis Trees & Watts (Int'l) | Active international | \$ 361.9 |
| 2. John Hancock Mutual Life Insurance Company | Private placements | 200.6 |
| 3. J.P. Morgan Investment Management | Active domestic fixed income | 526.8 |
| 4. Legg Mason Real Estate Advisors | Whole-loan mortgages | 57.1 |
| 5. MDL Capital Management | Active domestic fixed income | 88.5 |
| 6. Mellon Bond Associates | Domestic – index | 481.4 |
| 7. Miller, Anderson & Sherrerd | Active domestic fixed income | 831.8 |
| Miller, Anderson & Sherrerd | Active global fixed income | 434.8 |
| 8. Taplin, Canida & Habacht | Active domestic fixed income | 60.0 |
| <u>Specialty</u> | | |
| 9. Berwind Financial Group | PA Capital Fund | 12.3 |
| 10. Fidelity Management Trust Company | Commercial mortgage backed securities | 197.1 |
| 11. Oaktree Capital Management | Mezzanine Fund | 18.7 |
| 12. PNC Equity Management | PA Capital Fund | 19.4 |
| 13. Salomon Brothers Asset Management | High yield bonds | 498.2 |
| 14. Trust Company of the West Special Credits Fund III | Special credits | 0.0 |
| 15. W. R. Huff Asset Management | High yield bonds | <u>394.3</u> |
| Total | | \$4,182.8 |

**Includes securities and cash that the manager had available for investment. Numbers may not add due to rounding.*

Summary of SERS Cash Investments

Cash is one of eight major asset classes that SERS uses for investments of the Fund. The SERS' Investment Plan calls for minimizing cash balances while meeting cash flow requirements.

Policy: Cash investments are employed by the Fund to provide for SERS' liquidity needs and to accumulate funds for future permanent investment. The Cash asset class is to be managed on a total return basis, with the exception that temporary investments may alternatively be evaluated on a yield-to-maturity basis given their extremely short maturities.

In the Cash asset class, SERS' long term investment objectives are to achieve a total return, net of fees, that exceeds the total return on 90 day U.S. Treasury Bills. SERS' current Investment Plan targets an allocation of 0% of assets to the Cash asset class.

Fair Value as of December 31, 2002: Cash had a \$112.4 million fair value, 0.5% of the total Fund's \$20,908.3 million fair value on December 31, 2002.

Number of Investment Advisors: In accordance with SERS' 2002 Investment Plan, SERS utilizes the Pennsylvania State Treasury Department to manage its cash accounts.

Number of Investment Portfolios: SERS cash portfolio is managed by the Pennsylvania State Treasury Department.

Type of Investment Portfolios: SERS Cash asset class currently employs a money market short-term investment strategy; the State Treasury manages the portfolio. The portfolio also contains the uninvested cash balances held by other SERS investment advisors in other asset classes.

In the aggregate, State Treasury managed \$546.8 million on behalf of SERS and SERS' external investment advisors as of December 31, 2002.

Summary of Commodities Investments

Commodities are one of eight major asset classes that SERS uses for investments of the Fund. The SERS' Investment Plan calls for maintaining a 2% allocation to the commodity markets by entering into a swap agreement that provides the return that would be achieved by passively holding the underlying commodity future contracts. The objective of this asset class is to replicate the returns of the Goldman Sachs Commodity Index which is a "basket" of 26 commodities that are traded on U.S. exchanges.

Policy: Commodity investments are employed by the Fund to provide diversification within the total portfolio and to act as a hedge against unexpected inflation. Commodities provide diversification, and lower risk, to the portfolio due to the fact that their prices move independently of the broad market movements that affect other financial assets such as stocks and bonds. They provide an inflation hedge because their prices are linked to global supply and demand conditions for the world's basic commodities. This is the underlying driver of inflation.

Fair Value as of December 31, 2002: The Commodity portfolio had a \$325.0 million fair value, 1.6% of the total Fund's \$20,908.3 million fair value on December 31, 2002.

Number of Investment Advisors: NISA Investment Advisors of St. Louis, MO is the sole investment advisor for this strategy.

Number of Investment Portfolios: This strategy currently utilizes one investment portfolio.

Type of Investment Portfolios: SERS achieves the commodity index return by employing a swap agreement whereby SERS "swaps" the return earned on a short-term cash portfolio for the return of the Goldman Sachs Commodity Index. The advisor manages both the underlying short-term cash portfolio and the swap agreement with a third-party.

The investment objective of the portfolio is to match the return of the Goldman Sachs Commodity Index.

Summary of Real Estate Investments

Equity Real Estate is one of eight major asset classes that SERS uses to diversify the investment of the Fund. SERS' investment plan diversifies Real Estate investments and balances real estate management styles. In accordance with the plan, SERS contracts with external investment advisors to manage portfolios.

Policy: Equity Real Estate investments are generally long-term, illiquid investments that due to their high correlation with inflation provide an inflation hedge and, due to their low correlation with stocks and bonds, provide diversification within the total portfolio. It is expected that the long-term total return (income and appreciation) for real estate will fall between that of stocks and bonds. The Equity Real Estate asset class is managed on a total return basis.

In the Equity Real Estate asset class, SERS' long-term investment objective is to achieve a total return that exceeds the total return of the NCREIF Index. SERS' 2002 Investment Plan targeted an eventual allocation of 8% of assets to the Equity Real Estate asset class.

Investments are made through commingled fund investments, limited partnerships, REITs and separate account portfolios where SERS owns the properties directly or with other co-investors. SERS' Equity Real Estate portfolio guidelines provide for diversification by:

- Transaction structure;
- Property type;
- Geographic location; and
- Development phase.

Fair Value as of December 31, 2002: Real Estate had an estimated \$2,430.6 million fair value, approximately 11.6% of the total Fund's December 31, 2002 fair value. This fair value represents September 30, 2002 actual numbers adjusted for cash flows, which occurred in the fourth quarter 2002.

Number of Investment Advisors: SERS had contracts with 24 external investment advisors to manage real estate portfolios as of September 30, 2002.

Number of Investment Portfolios: SERS had investments in 41 real estate portfolios managed by the 24 investment advisors.

Type of Investment Portfolios: As of September 30, 2002, the composition of the real estate portfolio was:

- 36% pooled funds, 64% separate accounts;
- 33% office, 8% industrial, 17% retail, 14% residential, 14% hotel/motel, 6% timber, 9% other;
- 19% Pennsylvania, 24% East excluding PA, 25% West, 17% South, 11% Midwest, 2% International, 1% Unclassified;
- and
- 27.7% of the fair value of the separate accounts was invested in eighteen investments located in Pennsylvania.

| <i>Real Estate</i> Investment Advisor | Initial Funding | Property Type | Transaction Structure | Fair Value as of 9/30/02 (millions) |
|--|--------------------|-------------------|--------------------------|---|
| 1. AEW CIIF-II | 08/08/88 | Industrial, other | equity ownership | \$ 2.3 |
| 2. Apollo – AREF III | 06/26/98 | Opportunistic | equity and debt | 53.7 |
| 3. Berwind – BPG Fund IV | 04/20/98 | Opportunistic | equity and debt | 17.8 |
| BPG Fund V | 11/29/99 | Opportunistic | equity and debt | 21.7 |
| BPG Fund VI | 09/09/02 | Opportunistic | equity and debt | 0.4 |
| 4. Blackstone - BREP II | 02/26/97 | Opportunistic | equity and debt | 19.9 |
| BREP III | 10/22/99 | Opportunistic | equity and debt | 34.6 |
| 5. Campbell Group | | Timber | equity ownership | – |
| 6. Cliffwood Select Equity Fund | 08/04/00 | Long/Short REITs | public securities | 23.9 |
| 7. CRA Securities | 01/31/96 | REITs | public securities | 357.2 |
| 8. Forest Investment Assoc. | 10/30/92 | Timber | equity ownership | 141.3 |
| 9. Heitman Capital Mgmt: | | | | |
| Separate account | 12/28/87 | Diversified | equity ownership | 259.8 |
| JMB Group Trust III | 12/31/84 | Office, retail | equity ownership | 0.3 |
| 10. LaSalle Investment Mgmt. | 10/01/93 | Diversified | equity ownership | 165.3 |
| 11. Legg Mason Real Estate Adv. | 10/01/93 | PA diversified | equity ownership | 255.2 |
| Eastern Retail Holdings | 01/07/99 | Retail | equity and debt | 48.5 |
| 12. Lowe Enterprises | 10/01/93 | Diversified | equity ownership | 389.6 |
| 13. Lubert-Adler Fund II | 10/30/98 | Opportunistic | equity and debt | 3.7 |
| Lubert-Adler Fund III | 11/10/00 | Opportunistic | equity and debt | 13.1 |
| 14. Miller Global Fund III | 01/19/99 | Diversified | equity and debt | 19.7 |
| 15. Oaktree Capital Management: | | | | |
| TCW Fund VI | 04/20/94 | Opportunistic | equity and debt | 15.5 |
| OCM Opportunity Fund A | 05/09/96 | Opportunistic | equity and debt | 44.1 |
| OCM Opportunity Fund II | 12/15/98 | Opportunistic | equity and debt | 42.1 |
| 16. Oxford Development | 01/09/97 | Industrial | equity ownership | 50.9 |
| 17. Prudential Senior Housing I | 12/22/98 | Senior housing | equity and debt | 26.6 |
| Prudential Senior Housing II | 06/12/01 | Senior housing | equity and debt | 6.3 |
| 18. SSR MIAF II | 12/07/92 | Residential | equity ownership | 0.1 |
| 19. Sentinel Corp. | 07/31/84 | Diversified | equity ownership | 60.6 |
| 20. Starwood : | | | | |
| SOFI IV | 03/24/97 | Opportunistic | equity and debt | 33.9 |
| SOFI V | 05/14/99 | Opportunistic | equity and debt | 52.9 |
| SOFI VI | | Opportunistic | equity and debt | – |
| 21. UBS-Brinson: | | | | |
| PMSA | 09/30/83 | Diversified | equity mortgages | 55.0 |
| RESA | 06/3//84 | Diversified | equity ownership | 59.7 |
| Multifamily Trust | 08/02/99 | Residential | equity ownership | 51.1 |
| 22. Urdang Investment Mgmt. | 05/15/02 | REITs | public securities | 14.4 |
| 23. Westbrook Partners: | | | | |
| WREF II | 06/16/97 | Opportunistic | equity and debt | 16.3 |
| WREF III | 9/01/98 | Opportunistic | equity and debt | 54.1 |
| WREF IV | | Opportunistic | equity and debt | 13.0 |
| 24. Goldman Sachs: | | | | |
| Whitehall V & VI | 04/20/94 | Opportunistic | equity and debt | 11.1 |
| Whitehall V-S & VI-S | 12/11/95 | Opportunistic | equity and debt | 2.8 |
| Whitehall VII & VIII | 05/28/96 | Opportunistic | equity and debt | 20.3 |
| September 30, 2002 Total | | | | \$2,478.0 |
| 4th Quarter 2002 Net Cash Flow Adjustments | | | | (47.4) |
| December 31, 2002 Total | | | | \$2,430.6 |

(Numbers may not add due to rounding.)

Summary of Alternative Investments

Alternative Investments is comprised of Venture Capital and Private Equity investments, both of which take the form of limited partnerships.

Venture Capital is the financing of young, rapidly growing companies, typically at three stages of development. (1) Seed Stage is the form of venture capital that supports companies in their conceptual phase, i.e., a product and market are identified, and a corporate shell may have been formed. The seed investment finances development of the concept or business plan. (2) Early Stage supports companies pursuing a business plan but not yet generating revenues. The product has been developed and may have been shipped to a friendly user for testing. Management positions have been filled and an operating team is in place. (3) Late Stage companies have proven revenues, and are in the process of expanding. If late stage companies are substantially profitable, they are nearing a strategic sale to another company or an initial public offering. In other cases, a “bridge” financing may be used to supply needed capital for operations or expansion.

Private Equity primarily refers to investments in the equity and subordinated debt of established companies. Private equity approaches undertaken by SERS’s limited partnerships include: (1) Leveraged buyout (“LBO”) in which companies are acquired through the use of borrowed funds, or a combination of borrowed funds and contributed equity capital. The acquired company’s assets serve as collateral for the borrowed funds, which are substantially repaid from the company’s cash flows. (2) Distressed debt investing involves (a) de-leveraging of debt-laden, but successful, companies by infusing capital to permit debt reduction in exchange for an equity stake in the company, or (b) acquiring debt of a troubled, sometimes bankrupt company, at steep discounts to face value, followed by assistance to return the company to profitability to permit repayment of debt at levels above the discounted purchase price. (3) Secondary interests in established private equity funds – these interests are purchased from other investors who seek liquidity or desire to realign or rebalance its investment portfolio, often for non-financial reasons. Such partnerships interests are often purchased at significant discounts to net asset value and often occur when the acquired partnerships begin to realize profits.

Investment Objective: SERS’ long term investment objective for Alternative Investments is to achieve a risk-adjusted total return, net of fees, at least 500 basis points in excess of the return generated by the S&P 500 Index. SERS’ 2002 Investment Plan anticipates a long-term allocation of 14% of the Fund to Alternative Investments.

Fair Value as of December 31, 2002: The asset class total fair value stood at \$2,440.3 million after adjusting the September valuation for subsequent cash flows. Alternative investments represent 11.7% of the Fund. Sub-asset class capital commitments and drawdowns, distributions, fair values and fund percentages were as follows:

| | Total Capital Commitments | Capital Drawn | Distributions | NAV | Percent of Total Fund |
|-------------------------------|------------------------------|------------------|------------------|------------------|-----------------------------|
| <i>Venture Capital</i> | | | | | |
| Active | \$2,457.5 | \$1,355.5 | \$1,278.7 | \$691.5 | 3.3% |
| Inactive | 55.5 | 48.5 | 81.0 | n/a | n/a |
| <i>Private Equity</i> | | | | | |
| Active | 3,969.0 | 2,382.7 | 1,158.0 | 1,748.8 | 8.4% |
| Inactive | <u>22.5</u> | <u>22.5</u> | <u>41.6</u> | <u>n/a</u> | <u>n/a</u> |
| Alternative Investments | <u>\$6,504.5</u> | <u>\$3,809.2</u> | <u>\$2,559.3</u> | <u>\$2,440.3</u> | <u>11.7%</u> |

Number of Limited Partnerships: As of December 31, 2002, SERS had made commitments to 186 active Alternative Investments limited partnerships; 84 commitments were made to Venture Capital partnerships and 102 to Private Equity partnerships. (This does not include eleven partnerships - nine Venture Capital and two Private Equity - that are now “inactive,” or in the liquidation phase and investments pending contract approval.)

Alternative Investment Program

SERS Venture Capital Focus

SERS Venture Capital program includes commitments to 84 venture capital limited partnerships of which eighteen have investments that are either located in Pennsylvania or employ Pennsylvania citizens. This continues a tradition of the Venture Capital Program which is to invest with venture capital groups that have historically invested in Pennsylvania headquartered companies and/or companies that employ a significant number of Pennsylvanians. In addition, emphasis is placed on investing with venture groups that maintain a presence in Pennsylvania. As of December 31, 2002, SERS maintained twenty-seven active venture capital investments with fifteen managers that had offices located in Pennsylvania. Of the total current venture portfolio, venture capital investments have been made in 43 companies either located in Pennsylvania or that employ in-state residents. According to the PricewaterhouseCoopers/Venture Economics/National Venture Capital Association MoneyTree Survey, for calendar year 2002, Pennsylvania ranked 11th in the nation in the number of portfolio company transactions financed by venture capital (82 deals), and 11th in terms of dollars applied to venture financing (\$419.7 million was invested).

Venture Capital Diversification

The Venture Capital program seeks to diversify company investments across industries. As of September 30, 2002, based on invested capital, SERS largest positions in the Venture Capital program were invested in the following industries:

| | | |
|-------------------------------|--------------------------|---------------------------------|
| 17.8% Software | 4.2% Telecom Services | 2.6% Pharmaceuticals |
| 9.1% Telecom Networks/Systems | 4.2% Healthcare Services | 2.6% Internet e-commerce |
| 9.0% Consumer/Retail/Service | 3.8% Healthcare Devices | 2.3% Manufacturing |
| 8.4% Internet e-business | 3.3% Hardware | 2.3% Healthcare Software/System |
| 5.7% Biotech/Biopharma | 3.2% Financial | 1.8% Electronics |
| 4.4% Telecom Products | | |

The above industry allocation does not include an 11.1% allocation to Fund-of-Funds, which themselves are diversified broadly across industries.

The Venture Capital partnerships also invest at different points in company life cycles reflecting varying financing stage exposures: seed/start-up stage, early stage and later/expansion stage financing. As of September 30, 2002, based on invested capital, the Venture program consisted of approximately 53.2% in seed/start-up and early stage investments and 21.0% in later/expansion stage investments.

Private Equity Diversification

The Private Equity program has commitments to 102 buyout-oriented partnerships, which are well-diversified by size of investment and geographic focus. Non-hostile acquisitions are pursued. Most transactions are privately negotiated rather than auctioned, and are usually completed with present management in place.

SERS' eighteen non-U.S. private equity investments are comprised of fifteen funds investing in companies based in the U.K. and Europe, and three funds investing in Asian companies. The U.K./Europe funds plan to take advantage of dynamic changes occurring within Europe, including the formation of the European Economic Union and currency harmonization. The Asian partnership investments, the first two having been made in 1999, focus on expanded opportunities in the region created by attractive valuations, favorable demographics, and changing attitudes on behalf of local business people regarding foreign investment.

SERS' commitment to an international fund-of-funds category is comprised of partnerships specializing in late stage venture and buy-out investing. The partnerships are located throughout the world, with a geographic emphasis on developed countries. SERS has interests in twelve partnerships specializing in distressed debt instruments, and in five partnerships that specialize in secondary purchases of interests in established buyout and venture capital partnerships.

SERS Venture Capital Committed, Drawn and Distributed

As of December 31, 2002

The Capital Committed column represents total dollars allocated from SERS to each limited partnership. Capital Drawn is the portion of SERS capital commitments drawn by the General Partner to be placed with underlying portfolio companies. The Distributions column shows the value of original capital and profits returned to SERS.

| Limited Partnership | Financing Stage Focus | SERS Initial Funding | Capital Committed | Capital Drawn | Distributions |
|--|-----------------------------|----------------------------|----------------------|------------------|---------------|
| 1. Accel Europe | Early Stage | 7/2/01 | \$10,000,000 | \$1,500,000 | \$0 |
| 2. Adams Capital Management II | Early Stage | 10/1/99 | 30,000,000 | 24,000,000 | 0 |
| Adams Capital Management III | Early Stage | 11/21/00 | 30,000,000 | 8,250,000 | 0 |
| 3. Advanced Technology Venture VI | Early Stage | 3/9/00 | 10,000,000 | 7,000,000 | 0 |
| Advanced Technology Venture VII | Diversified | 7/11/01 | 30,000,000 | 2,250,000 | 0 |
| 4. Alloy Ventures 2000 | Seed/Early | 5/19/00 | 20,000,000 | 13,000,000 | 2,074,620 |
| Alloy Ventures 2002 | Seed/Early | 7/22/02 | 25,000,000 | 1,500,000 | 0 |
| 5. APA/Fostin – Fund I | Diversified | 9/30/87 | 20,000,000 | 20,000,000 | 76,820,112 |
| APA/Excelsior VI | Diversified | 7/3/00 | 35,000,000 | 12,526,784 | 0 |
| PA Fund I (APA/Fostin II) | Diversified | 6/2/93 | 30,000,000 | 29,999,999 | 57,512,509 |
| PA Fund III | Diversified | 4/1/97 | 100,000,000 | 99,366,750 | 123,281,098 |
| Apex Ventures IV | Early/Later | 9/17/99 | 25,000,000 | 25,000,000 | 257,565 |
| Apex Ventures V | Early Stage | 4/19/02 | 20,000,000 | 2,000,000 | 0 |
| 6. Atlas Ventures IV | Early/Later | 3/23/99 | 26,000,000 | 18,661,500 | 2,396,832 |
| Atlas Ventures V | Early/Later | 2/7/00 | 40,000,000 | 24,530,827 | 678,172 |
| Atlas Ventures VI | Seed/Early | 8/1/01 | 24,800,000 | 3,266,821 | 0 |
| 7. Austin Ventures VIII | Early Stage | 7/26/01 | 19,366,667 | 3,383,332 | 536,400 |
| 8. Bachow Investments III | Diversified | 11/9/94 | 25,000,000 | 24,969,997 | 23,360,844 |
| 9. Charles River | Early Stage | 2/15/01 | 11,032,259 | 3,540,000 | 0 |
| 10. Cross Atlantic Technology Fund | Early Stage | 2/14/00 | 20,000,000 | 17,000,000 | 0 |
| Cross Atlantic Techn. II | Early Stage | 1/28/02 | 32,900,000 | 1,111,781 | 0 |
| 11. Draper Fisher Jurvetson VI | Early Stage | 8/13/99 | 8,000,000 | 5,200,000 | 0 |
| Draper Fisher Jurvetson VII | Seed/Early | 9/22/00 | 20,000,000 | 5,371,716 | 0 |
| 12. Draper Triangle | Early Stage | 12/20/99 | 20,000,000 | 11,469,849 | 0 |
| 13. Edison Ventures III | Diversified | 3/1/94 | 25,000,000 | 25,000,000 | 44,430,279 |
| 14. Fairview Capital I | Minority | 9/28/94 | 10,000,000 | 9,500,000 | 3,017,627 |
| Fairview Capital II | Minority | 3/1/98 | 10,000,000 | 7,000,000 | 365,954 |
| 15. Fostin Capital II | Diversified | 10/5/89 | 8,000,000 | 7,500,000 | 11,415,869 |
| 16. Frazier Healthcare III | Later Stage | 2/4/99 | 30,000,000 | 22,800,000 | 0 |
| Frazier IV | Diversified | 9/27/01 | 30,000,000 | 3,600,000 | 0 |
| 17. Grotech Partners III | Diversified | 6/29/90 | 3,000,000 | 3,000,000 | 2,680,216 |
| Grotech Partners IV | Diversified | 11/1/93 | 25,000,000 | 24,999,999 | 38,643,076 |
| Grotech Partners V | Diversified | 9/18/98 | 25,000,000 | 22,338,216 | 15,217,736 |
| 18. Halpern & Denny II | Early Stage | 4/28/98 | 27,500,000 | 24,874,991 | 284,820 |
| Halpern & Denny III | Early Stage | 4/26/00 | 25,000,000 | 14,250,000 | 0 |
| 19. HarbourVest Partnership Fund VI | Fund-of-funds | 5/7/99 | 200,000,000 | 84,000,000 | 12,693,406 |
| HarbourVest Partnership Fund VII | Fund-of-funds | * | 75,000,000 | 0 | 0 |
| 20. Healthcare Ventures III | Diversified | 7/9/92 | 15,000,000 | 15,000,000 | 20,488,010 |
| Healthcare Ventures V | Diversified | 10/17/97 | 25,000,000 | 24,312,500 | 32,312,265 |
| Healthcare Ventures VI | Diversified | 6/19/00 | 35,000,000 | 21,000,000 | 2,412,611 |
| Healthcare Ventures VII | Early Stage | 7/24/02 | 35,000,000 | 0 | 0 |

| | | | | | |
|-------------------------------------|---------------|----------|-------------------------------|-------------------------------|-------------------------------|
| 21. Highland Capital VI | Early Stage | 10/25/01 | \$25,000,000 | \$1,937,500 | \$0 |
| 22. Ignition Venture Partners II | Seed/Early | 12/17/01 | 8,000,000 | 626,965 | 70 |
| 23. InterWest Partners VIII | Early/Later | 8/25/00 | 25,000,000 | 8,750,000 | 956 |
| 24. JH Whitney Equity Partners III | Early Stage | 3/12/98 | 20,000,000 | 19,639,297 | 23,882,606 |
| JH Whitney Equity Partners IV | Early Stage | 2/1/00 | 20,000,000 | 16,412,208 | 673,784 |
| JH Whitney Equity Partners V | Early/Later | 3/29/01 | 20,000,000 | 6,839,438 | 5,578 |
| 25. JP Morgan VC Instl' Investors I | Fund-of-funds | 7/8/99 | 100,000,000 | 67,705,095 | 4,617,619 |
| JP Morgan VC Instl' Investors II | Fund-of-funds | 10/10/00 | 100,000,000 | 11,963,621 | 141,460 |
| 26. Keystone Ventures IV | Middle/Later | 7/21/93 | 15,000,000 | 14,980,880 | 9,687,679 |
| Keystone Ventures V | Middle/Later | 12/29/97 | 25,000,000 | 25,000,000 | 0 |
| Keystone Ventures VI | Middle/Later | 12/26/00 | 25,000,000 | 8,808,429 | 0 |
| 27. Kline Hawkes Pacific II | Diversified | 8/30/00 | 15,000,000 | 5,550,000 | 0 |
| 28. Meritech Capital II | Later Stage | 1/2/01 | 18,750,000 | 4,000,000 | 0 |
| 29. Morganthaler | Early/ Later | 7/26/01 | 35,000,000 | 7,000,000 | 0 |
| 30. NEA VI | Early/Later | 3/2/94 | 25,000,000 | 25,000,000 | 192,713,931 |
| NEA VII | Early/Later | 4/1/97 | 35,000,000 | 13,125,000 | 727,646 |
| NEA IX | Seed/Early | 11/15/99 | 20,000,000 | 19,000,000 | 523,810 |
| NEA X | Seed/Early | 12/11/00 | 30,000,000 | 30,000,000 | 86,041,016 |
| 31. NEPA Venture II | Seed/Early | 7/24/92 | 8,000,000 | 7,500,000 | 30,784,501 |
| NEPA – MidAtlantic Ventures III | Seed/Early | 4/1/97 | 20,000,000 | 20,000,000 | 961,929 |
| NEPA - Mid-Atlantic Ventures IV | Early Stage | 5/4/00 | 30,000,000 | 15,900,000 | 217,297 |
| 32. Point Ventures II | Diversified | 10/2/90 | 1,000,000 | 1,000,000 | 1,313,407 |
| 33. Polaris Venture Partners | Early Stage | 6/4/96 | 15,000,000 | 14,595,000 | 44,401,254 |
| Polaris Venture Partners II | Early Stage | 9/8/98 | 25,000,000 | 23,250,000 | 24,859,455 |
| Polaris Venture Partners III | Early Stage | 1/21/00 | 50,000,000 | 31,500,000 | 1,006,955 |
| Polaris Venture Partners IV | Early Stage | 9/30/02 | 50,000,000 | 1,500,000 | 0 |
| 34. Sprout VII | Diversified | 2/24/95 | 18,000,000 | 18,000,000 | 29,269,750 |
| 35. Summit Ventures IV | Later Stage | 6/27/95 | 25,000,000 | 23,750,000 | 175,363,529 |
| Summit Ventures V | Later Stage | 3/9/98 | 37,500,000 | 29,062,500 | 11,851,315 |
| Summit Accelerator | Early Stage | 11/15/99 | 8,000,000 | 4,720,000 | 1,090,444 |
| 36. TA Associates - Advent VII | Diversified | 7/30/93 | 25,000,000 | 25,000,000 | 86,483,328 |
| TA Associates - Advent VIII | Diversified | 2/1/97 | 30,000,000 | 28,650,000 | 28,430,398 |
| TA Associates - Advent IX | Diversified | 9/20/00 | 45,000,000 | 10,575,000 | 0 |
| 37. Technology Leaders III | Diversified | 1/3/97 | 15,000,000 | 14,250,000 | 17,942,741 |
| Technology Leaders IV | Diversified | 5/13/99 | 35,000,000 | 28,000,000 | 7,620,935 |
| Technology Leaders V | Diversified | 10/18/00 | 40,000,000 | 12,400,000 | 166,156 |
| 38. Three Arch Capital | Later Stage | 12/20/00 | 20,000,000 | 6,400,000 | 0 |
| 39. U.S. Venture Partners VII | Early/Later | 2/18/00 | 15,000,000 | 10,425,000 | 0 |
| U.S. Venture Partners VIII | Early Stage | 6/1/01 | 35,000,000 | 8,225,000 | 0 |
| 40. Weston Presidio II | Diversified | 11/27/95 | 20,000,000 | 17,000,000 | 27,002,007 |
| Weston Presidio III | Diversified | 3/31/99 | 35,000,000 | 28,000,000 | 0 |
| Weston Presidio IV | Diversified | 6/21/00 | 35,000,000 | 8,750,000 | 0 |
| 41. Worldview IV | Early/Later | 1/31/01 | 22,662,529 | 6,621,594 | 0 |
| Total | | | <u>\$2,457,511,455</u> | <u>\$1,355,487,589</u> | <u>\$1,278,661,579</u> |

* Not funded as of December 31, 2002.

Quaker Bioventures and PA Early Stage III were approved by SERS' Board prior to 12/31/2002. However, the contracts were completed subsequent to the date.

Inactive Funds

| Limited Partnership | Financing Stage Focus | SERS Initial Funding | Capital Committed | Capital Drawn | Distributions |
|----------------------------|--------------------------------------|-------------------------------------|------------------------------|----------------------------|----------------------------|
| 1. CEO Venture Fund II | Diversified | 7/14/89 | \$7,500,000 | \$7,483,903 | \$5,194,904 |
| 2. CEO S | Diversified | 7/1/87 | 8,000,000 | 982,003 | 1,239,189 |
| 3. Fostin Capital | Diversified | 11/25/85 | 10,000,000 | 10,000,000 | 10,535,024 |
| 4. Keystone Ventures II | Middle/Later | 11/1/85 | 10,000,000 | 10,000,000 | 22,401,982 |
| 5. NEPA Venture I | Seed/Early | 8/29/85 | 2,000,000 | 2,000,000 | 11,936,763 |
| 6. PNC Ventures | Diversified | 11/25/85 | 5,000,000 | 5,000,000 | 12,055,375 |
| 7. Pittsburgh Seed Fund | Seed | 1/13/87 | 2,000,000 | 2,000,000 | 1,016,649 |
| 8. TDH II | Diversified | 11/25/85 | 9,000,000 | 9,000,000 | 15,990,106 |
| 9. Zero Stage II | Seed | 4/30/87 | <u>2,000,000</u> | <u>2,000,000</u> | <u>628,401</u> |
| Total | | | <u>\$55,500,000</u> | <u>\$48,465,906</u> | <u>\$80,998,392</u> |

SERS Private Equity Investments Committed, Drawn and Distributed *As of December 31, 2002*

The Capital Committed column represents total dollars allocated from SERS to each limited partnership. Capital Drawn is the portion of SERS capital commitments drawn by the General Partner to be placed with underlying portfolio companies. The Distributions column shows the value of original capital and profits returned to SERS.

| Limited Partnership | Financing Stage Geographic Focus | Funding | Capital Committed | Capital Drawn | Distributions |
|---|-------------------------------------|----------|-------------------|---------------|---------------|
| 1. ABACUS Fund | Hedge | 4/24/00 | \$15,000,000 | \$15,000,000 | \$0 |
| 2. ABRY Broadcast Partners III | Natl' B/O | 4/1/97 | 25,000,000 | 26,163,525 | 16,348,547 |
| ABRY Broadcast Partners IV | Natl' B/O | 3/30/01 | 35,000,000 | 12,484,958 | 0 |
| ABRY Mezzanine Partners | Mezzanine | 3/15/02 | 30,000,000 | 3,462,623 | 126 |
| 3. ABS Capital III | Natl' B/O | 1/26/99 | 35,000,000 | 26,374,773 | 817,568 |
| ABS Capital IV | Natl' B/O | 10/13/00 | 35,000,000 | 10,320,997 | 2,679,250 |
| 4. AG Capital Recovery II | Distressed | 10/1/01 | 17,600,000 | 17,600,000 | 0 |
| AG Capital Recovery III | Distressed | 4/1/02 | 20,000,000 | 12,000,000 | 0 |
| 5. APAX France III | France | 11/29/90 | 5,000,000 | 5,103,877 | 8,485,904 |
| APAX Germany | Germany | 1/30/91 | 5,200,000 | 5,246,602 | 11,955,534 |
| APAX Germany II | Germany | 7/15/97 | 6,000,000 | 8,455,477 | 14,255,238 |
| APAX UK VI | U.K. | 12/9/97 | 9,000,000 | 6,569,925 | 10,010,403 |
| APAX Europe IV | Pan-Europe | 3/31/99 | 35,000,000 | 23,664,364 | 6,363,617 |
| APAX Europe V | Pan-Europe | 4/27/01 | 60,000,000 | 9,615,638 | 0 |
| 6. Alpha Private Equity Fund IV | France/Germ | 5/15/02 | 26,580,000 | 2,811,079 | 0 |
| 7. Apollo IV | Natl' B/O | 8/3/98 | 75,000,000 | 68,137,066 | 8,845,414 |
| Apollo V | Natl' B/O | 8/23/01 | 50,000,000 | 11,043,752 | 0 |
| 8. Asia Pacific III | Asia | 9/28/99 | 15,000,000 | 14,494,345 | 801,604 |
| 9. Audax Private Equity Fund | Mid-Mkt B/O | 5/25/00 | 35,000,000 | 11,503,462 | 0 |
| 10. B III Capital Partners (DDJ) | Distressed | 8/1/97 | 35,000,000 | 34,423,917 | 18,227,212 |
| 11. BC European Capital VII | Pan-Europe | 7/28/00 | 35,000,000 | 12,553,839 | 2,600,312 |
| BC VII Top Up | Pan-Europe | 7/2/01 | 10,000,000 | 1,399,273 | 0 |
| 12. Bain Capital Fund VII | Natl' B/O | 7/6/00 | 25,000,000 | 3,625,000 | 544,896 |
| 13. Berkshire Fund VI | Mid-Mkt B/O | 7/11/02 | 20,000,000 | 1,138,875 | 0 |
| 14. Blackstone II | Global B/O | 8/26/94 | 40,000,000 | 42,438,924 | 69,877,959 |
| Blackstone III | Global B/O | 11/3/97 | 75,000,000 | 57,938,903 | 20,868,445 |
| Blackstone IV | Global B/O | * | 75,000,000 | 0 | 0 |
| Blackstone Commun. Ptnrs I | Global B/O | 8/29/00 | 25,000,000 | 4,145,305 | 1,006,460 |
| 15. Cerberus Institutional Partners | Distressed | 3/5/99 | 35,000,000 | 35,000,000 | 0 |
| Cerberus Instl' Series Two | Distressed | 10/9/01 | 35,000,000 | 22,575,000 | 0 |
| 16. Charterhouse II | Natl' B/O | 3/30/94 | 40,000,000 | 42,757,326 | 92,876,090 |
| Charterhouse III | Natl' B/O | 11/19/97 | 50,000,000 | 42,720,032 | 7,731,895 |
| 17. Charterhouse Development Capital VII (European) | UK | * | 50,000,000 | 0 | 0 |
| 18. Clayton, Dubilier & Rice V | US/Europe | 5/3/95 | 50,000,000 | 49,236,502 | 0 |
| Clayton, Dubilier & Rice VI | US/Europe | 1/4/99 | 50,000,000 | 27,905,447 | 0 |
| 19. Code, H. & Simmons I | Midwest B/O | 9/28/89 | 10,000,000 | 9,650,000 | 29,205,914 |
| Code, H. & Simmons II | Midwest B/O | 7/12/94 | 20,000,000 | 20,000,000 | 33,054,447 |
| Code, H. & Simmons III | Midwest B/O | 8/1/97 | 40,000,000 | 38,056,000 | 12,323,192 |
| Code, H. & Simmons IV | Midwest B/O | 9/16/99 | 100,000,000 | 43,380,000 | 128,618 |
| 20. DLJ Merch. II | Global B/O | 5/22/97 | 75,000,000 | 74,969,233 | 34,289,960 |
| DLJ III | Global B/O | 8/14/01 | 85,000,000 | 27,786,145 | 1,663,894 |
| 21. Francisco Partners | Natl' B/O | 7/27/00 | 50,000,000 | 23,750,000 | 0 |

| Limited Partnership | Financing Stage Geographic Focus | Funding | Capital Committed | Capital Drawn | Distributions |
|--|-------------------------------------|----------|-------------------|---------------|---------------|
| 22. Frontenac VII | Midwest B/O | 8/1/97 | \$40,000,000 | \$40,000,000 | \$29,539,057 |
| 23. Great Hill | Natl' B/O | 4/12/99 | 30,000,000 | 24,763,847 | 0 |
| Great Hill II | Natl' B/O | 3/28/01 | 35,000,000 | 6,417,716 | 0 |
| 24. Gryphon Partners II | Natl' B/O | 11/3/99 | 35,000,000 | 11,854,617 | 0 |
| 25. GTCR V | Natl' B/O | 4/25/97 | 11,400,000 | 11,400,000 | 7,394,483 |
| GTCR VI | Natl' B/O | 6/25/98 | 50,000,000 | 50,375,000 | 28,222,371 |
| GTCR VII | Natl' B/O | 3/15/00 | 55,000,000 | 33,309,375 | 10,779,732 |
| 26. HarborVest International II | Intl' F of F | 4/1/97 | 25,000,000 | 23,607,775 | 15,652,671 |
| HarborVest International III | Intl' F of F | 6/22/98 | 40,000,000 | 22,000,000 | 2,940,683 |
| HarborVest International IV | Intl' F of F | 4/9/01 | 40,000,000 | 3,600,000 | 0 |
| 27. Hellman & Friedman II | Global | 1/7/92 | 21,130,323 | 23,218,222 | 39,736,146 |
| Hellman & Friedman III | Global | 6/14/95 | 50,000,000 | 40,308,123 | 69,316,780 |
| Hellman & Friedman IV | Global | 2/14/00 | 75,000,000 | 34,450,675 | 17,886,824 |
| 28. Invemed Fund | Mid-Mkt B/O | 10/19/99 | 25,000,000 | 9,535,114 | 1,169,298 |
| 29. JW Childs III | Natl' B/O | 8/20/02 | 40,000,000 | 3,253,538 | 0 |
| 30. JP Morgan Corp. Finance Instl. | Fund of Funds | * | 50,000,000 | 0 | 0 |
| 31. Kelso V | Natl' B/O | 1/26/94 | 40,000,000 | 53,753,871 | 68,279,464 |
| Kelso VI | Natl' B/O | 7/7/98 | 75,000,000 | 40,082,237 | 11,276,571 |
| 32. LLR Equity Partners | Mid-Mkt B/O | 2/4/00 | 25,000,000 | 12,483,915 | 5,394,239 |
| 33. Landmark IV | Secondaries | 2/28/95 | 14,900,000 | 12,495,850 | 13,568,331 |
| Landmark V | Secondaries | 1/27/96 | 20,000,000 | 19,391,580 | 18,459,053 |
| 34. Lexington II | Secondaries | 4/1/98 | 40,000,000 | 34,678,000 | 14,328,000 |
| Lexington III | Secondaries | 1/26/99 | 35,000,000 | 30,545,037 | 18,897,581 |
| Lexington V | Secondaries | 1/17/02 | 75,000,000 | 8,890,305 | 2,303,161 |
| 35. M/C Partners III | Natl' B/O | 6/2/97 | 25,000,000 | 22,500,000 | 16,307,655 |
| M/C Partners IV | Natl' B/O | 3/31/99 | 25,000,000 | 21,875,000 | 0 |
| M/C Partners V | Natl' B/O | 9/29/00 | 35,000,000 | 13,125,000 | 0 |
| 36. Madison Dearborn I | US/Europe | 2/23/93 | 15,000,000 | 14,503,896 | 31,999,822 |
| Madison Dearborn II | US/Europe | 1/3/97 | 40,000,000 | 39,476,313 | 41,464,716 |
| Madison Dearborn III | US/Europe | 4/6/99 | 75,000,000 | 70,451,018 | 6,104,311 |
| Madison Dearborn IV | US/Europe | 4/2/01 | 90,000,000 | 21,488,323 | 9,950,318 |
| 37. MatlinPatterson Global Opportunities Partner | Distressed | 5/4/01 | 35,000,000 | 26,250,000 | 11,294 |
| 38. Murphy & Partners | Natl' B/O | 10/11/88 | 5,200,000 | 5,194,735 | 7,862,758 |
| 39. Newbridge Asia II | Asia | 9/3/99 | 15,000,000 | 14,408,459 | 2,355,143 |
| Newbridge Asia III | Asia | 2/15/01 | 15,000,000 | 484,051 | 0 |
| 40. Oakhill | Natl' B/O | 5/17/99 | 50,000,000 | 42,127,828 | 4,705,522 |
| 41. OCM Opportunities | Distressed | 1/12/96 | 24,000,000 | 24,000,000 | 26,398,029 |
| OCM Opportunities II | Distressed | 2/5/98 | 40,000,000 | 40,000,000 | 23,065,867 |
| OCM Opportunities III | Distressed | 1/20/00 | 60,000,000 | 60,000,000 | 12,000,000 |
| OCM Opportunities IV | Distressed | 9/26/01 | 70,000,000 | 75,250,000 | 5,441,781 |
| OCM Principal I Opportunities Fund | Distressed | 11/12/96 | 25,000,000 | 25,000,000 | 3,450,528 |
| OCM Principal II | Distressed | 4/24/01 | 25,000,000 | 12,500,000 | 1,884,375 |
| 42. Palamon Equity Partners | Pan-European | 7/23/99 | 30,000,000 | 12,681,655 | 0 |
| 43. Parthenon Investors II | Mid-Mkt B/O | 8/9/01 | 20,000,000 | 2,114,458 | 395 |
| 44. Permira Ventures UK III | UK | 8/29/89 | 10,000,000 | 8,946,988 | 24,954,188 |
| Permira Ventures UK IV | UK | 4/2/96 | 15,000,000 | 15,794,739 | 11,743,742 |
| Permira European I | Pan-European | 7/1/97 | 36,000,000 | 30,948,403 | 51,995,968 |
| Permira European II | Pan-European | 6/7/00 | 50,000,000 | 18,696,978 | 1,414,281 |
| 45. Providence Equity IV | US/Europe | 11/27/00 | 25,000,000 | 3,461,018 | 51,467 |
| 46. RRZ Private Equity Fund | PA Buyouts | 11/7/96 | 20,000,000 | 18,922,630 | 0 |
| 47. SCP Private Equity II | Natl' B/O | 6/15/00 | 25,000,000 | 12,460,869 | 421,528 |
| 48. Sterling Capiral Partners | Mid-Mkt B/O | 10/31/02 | 15,000,000 | 150,000 | 0 |
| 49. Summit Ventures VI | Natl' B/O | 3/23/01 | 62,000,000 | 6,510,000 | 0 |
| 50. TCW V | Natl' B/O | 8/25/94 | 35,000,000 | 35,000,000 | 51,149,425 |
| 51. TPG Partners II | US/Europe | 5/2/97 | 75,000,000 | 75,566,799 | 27,266,925 |

| Limited Partnership | Financing Stage Geographic Focus | Funding | Capital Committed | Capital Drawn | Distributions |
|------------------------------|---|----------------|-------------------------------|-------------------------------|-------------------------------|
| TPG Partners III | US/Europe | 1/13/00 | \$75,000,000 | \$30,271,805 | \$3,273,783 |
| 52. Thomas Lee Equity Fund V | Natl' B/O | 7/3/01 | 100,000,000 | 11,661,608 | 0 |
| Thomas Lee Equity Fund IV | Natl' B/O | 4/24/98 | 70,000,000 | 60,623,767 | 3,735,558 |
| 53. Vestar Capital III | US/Europe | 5/7/97 | 25,000,000 | 20,410,303 | 8,831,406 |
| Vestar Capital IV | US/Europe | 1/25/00 | <u>100,000,000</u> | <u>33,912,275</u> | <u>11,891</u> |
| Total | | | <u>\$3,969,010,323</u> | <u>\$2,382,685,900</u> | <u>\$1,157,959,621</u> |

* Not funded as of December 31, 2002.

Nordic and Angelo Gordon Capital Recovery IV were approved by SERS Board 12/31/2002. The contracts were not approved as of 12/31/2002.

Inactive Funds

| Limited Partnership | Financing Stage Focus | Funding | Capital Committed | Capital Drawn | Distributions |
|----------------------------|--------------------------------------|----------------|------------------------------|----------------------------|----------------------------|
| 1. Brentwood Buyout Fund | Natl' B/O | Dec-88 | \$12,500,000 | \$12,548,440 | \$21,955,297 |
| 2. RRZ PA Fund #1 | PA B/O | Mar-88 | <u>10,000,000</u> | <u>10,000,000</u> | <u>19,606,155</u> |
| Total | | | <u>\$22,500,000</u> | <u>\$22,548,440</u> | <u>\$41,561,452</u> |

ACTUARIAL



Actuary's Certification

HayGroup, Inc.
Actuarial and Benefits Consultants
4301 North Fairfax Drive
Suite 500
Arlington, VA 22203
(703) 841-3100
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April 23, 2003

Mr. John Brosius
Executive Director
State Employees' Retirement System
30 North Third Street
Harrisburg, PA 17108-1147

Dear Mr. Brosius:

The purpose of this letter is to certify the actuarial adequacy of the contributions being made by the State of Pennsylvania and other participating agencies to the Pennsylvania State Employees' Retirement System (SERS), and to discuss the approach currently being taken toward meeting the financing objectives of the plan.

The results provided herein are based upon the December 31, 2002 actuarial valuation. The December 31, 2002 actuarial valuation recognizes the first phase of the retiree cost-of-living adjustment that was effective July 2002.

The funding objective of the plan is set forth in the SERS code. The annual employer contribution is equal to the sum of the following:

- (1) The employer share of the normal cost.
- (2) The amortization of the unfunded liabilities as of December 31, 2001 over a ten-year period beginning July 1, 2002 and ending on June 30, 2012.
- (3) The amortization of changes in liability after 2001 over ten-year periods beginning with the July first following the effective date of the change. Changes include actuarial gains and losses and plan amendments.

The amortization payments are level amounts over each ten-year period. The employer cost is determined as a percent of payroll, and the employer contributes that percent of the payroll of all covered members during each fiscal year. The employer cost is the total of (1) the employer normal cost percent and (2) the amortization payment on the outstanding liabilities. The employer contribution rate is based on the results of the actuarial valuation that is performed annually. The most recent valuation was performed as of December 31, 2002.

All costs and liabilities have been determined in conformance with generally accepted actuarial principles and procedures in accordance with the principles of practice prescribed by the American Academy of Actuaries. The calculations were performed on the basis of actuarial assumptions and methods, which are internally consistent, and reasonable (taking into account past experience under the SERS and reasonable expectations) and which in combination represent the best estimate of anticipated experience under the plan.

The actuarial valuation is based on financial and participant data, which is prepared by SERS staff. The data are reviewed for internal and year-to-year consistency as well as general reasonableness prior to their use in the actuarial valuation.

The actuarial valuation uses assumptions regarding future rates of investment return and rates of retirement, withdrawal, death, and disability among SERS members and their beneficiaries. The current set of assumptions used in the December 31, 2002 actuarial valuation was adopted by the Board and was based on actual experience of SERS during the years 1996 through 2000.

The actuarial value of assets is developed by recognizing the difference between the expected actuarial value of assets and the market value of assets over a five-year period.

Government Accounting Standards Board (GASB) Statement No. 25, *Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans* establishes the range of funding methods for the Unfunded Actuarial Accrued Liability. The SERS payments are within the range established under GASB #25.

The “Schedule of Funding Progress” and “Schedule of Employer Contributions” included in the Financial Section are provided as part of the accounting disclosure statements in accordance with GASB #25. These two schedules were derived from the December 31, 2002 actuarial valuation.

With the exception of the “Schedule of Retirees and Beneficiaries Added to and Removed from Rolls” and the “Summary of Plan Provisions,” the schedules appearing in the Actuarial Section were derived from the December 31, 2002 actuarial valuation.

Based upon the valuation results, it is our opinion that the Pennsylvania State Employees’ Retirement System continues in sound condition in accordance with generally accepted actuarial principles and procedures.

Respectfully submitted,
Hay Group



By
Edwin C. Hustead, F.S.A.
Member American Academy of Actuaries
Enrolled Actuary No. 99-1499



Brent M. Mowery, F.S.A.
Member American Academy of Actuaries
Enrolled Actuary No. 99-3885

Summary of Actuarial Assumptions and Methods

- ◆ The investment rate of return is 8.5% per year based on an underlying rate of inflation of 3.0% per year.
- ◆ The Plan uses a five–year smoothed market approach to value plan assets for actuarial purposes
- ◆ Actuarial methods are specified by statute. Actuarial assumptions are suggested by the plan’s actuary and approved by the SERS Board of Trustees
- ◆ For current retirees, beneficiaries and survivors, and all active employees, the plan uses the 1983 Group Annuity Mortality Table for both males and females.
- ◆ The rates for probability of retirement and the probabilities of withdrawal from active service, including death, before age and service retirements are presented in the Schedule of Active Member Valuation Data.
- ◆ The projected average salary increase is 6.8% with a range of 5.16% to 8.98%. This increase includes an underlying assumption of 3.0% for inflation. The annual rate of salary increase for promotions and longevity for members is presented in the Schedule of Active Member Valuation Data.
- ◆ The plan uses a variation of the entry-normal age actuarial cost method to determine the liabilities and costs related to the System’s benefits. The method is based on the benefits and contributions for new employees rather than for all current employees from their date of entry. This variation should produce approximately the same results as the typical method over the long run. The Plan uses an amortization period of 10 years for both unfunded liabilities and subsequent changes in the liability, including those arising from plan amendments and actuarial gains and losses.
- ◆ The Plan does not use an assumption for cost-of-living adjustments in the determination of actuarial valuations.
- ◆ The Plan periodically prepares a study using actual experience in order to develop assumptions to be used in its actuarial valuations. The latest study was completed March 28, 2001, for the period January 1, 1996, through December 31, 2000.
- ◆ The most recent valuation was based on members of the Plan as of December 31, 2002. All census data was supplied by the Plan and was subject to reasonable consistency checks. Asset data was also supplied by the Plan.
- ◆ The actuarial computations were prepared by, or made under the supervision, of a Member of the American Academy of Actuaries (M.A.A.A.).

Schedule of Active Member Valuation

Withdrawal From Active Employment Before Age & Service Retirement Annual Rate of Active Members Separating Within the Next Year As of December 31, 2002

Table A*

| Sample Age | MALE | | | | | FEMALE | | | | | | |
|------------|------------------|-------|-------|-------|-------|------------|------------------|-------|-------|-------|-------|------------|
| | Withdrawal | | | | Death | Disability | Withdrawal | | | | Death | Disability |
| | Years of Service | | | | | | Years of Service | | | | | |
| 0 | 5 | 9 | 14+ | 0 | 5 | 9 | 14+ | | | | | |
| 20 | 9.60% | 0.50% | 0.00% | 0.00% | 0.03% | 0.03% | 9.50% | 2.20% | 0.50% | 0.00% | 0.02% | 0.06% |
| 25 | 9.40 | - | - | - | 0.03 | 0.03 | 8.70 | 1.70 | 0.50 | - | 0.02 | 0.06 |
| 30 | 9.00 | 1.00 | - | - | 0.04 | 0.08 | 8.70 | 1.70 | - | - | 0.03 | 0.15 |
| 35 | 8.80 | 1.70 | - | - | 0.06 | 0.15 | 8.70 | 1.70 | - | - | 0.04 | 0.25 |
| 40 | 8.80 | 0.60 | - | - | 0.08 | 0.23 | 8.50 | 3.70 | 0.80 | - | 0.06 | 0.33 |
| 45 | 8.50 | 1.60 | - | - | 0.15 | 0.41 | 8.30 | 3.20 | 0.80 | - | 0.09 | 0.52 |
| 50 | 8.30 | 1.30 | - | - | 0.27 | 0.57 | 8.30 | 3.20 | - | - | 0.14 | 0.78 |
| 55 | 8.30 | - | - | - | 0.42 | 0.75 | 8.30 | 0.50 | - | - | 0.22 | 0.99 |
| 60 | - | - | - | - | 0.62 | - | - | - | - | - | 0.36 | - |

Annual Rate of Retirement Table B*

| Sample Age | Full Benefits | |
|------------|---------------|--------|
| | Male | Female |
| 51-61 | 22.0% | 22.0% |
| 62 | 33.0 | 33.0 |
| 63-64 | 22.0 | 22.0 |
| 65 | 34.0 | 34.0 |
| 66 | 27.0 | 27.0 |
| 67-79 | 20.0 | 20.0 |
| 80 | 100.0 | 100.0 |

Annual Rate of Salary Increase Table C

| Age | Increase |
|-----|----------|
| 20 | 5.5% |
| 25 | 5.5 |
| 30 | 5.3 |
| 35 | 4.6 |
| 40 | 4.0 |
| 45 | 3.5 |
| 50 | 2.8 |
| 55 | 2.1 |
| 60 | 1.8 |

Reduced Benefits

| Sample Age | 5-14 Years of Service | | >14 Years of Service | |
|------------|-----------------------|--------|----------------------|--------|
| | Male | Female | Male | Female |
| 20 | 4.0% | 4.0% | NA | NA |
| 25 | 4.0 | 4.0 | NA | NA |
| 30 | 3.0 | 4.0 | 3.0% | 4.0% |
| 35 | 2.0 | 3.0 | 2.0 | 2.0 |
| 40 | 2.0 | 1.0 | 2.0 | 2.0 |
| 45 | 1.0 | 1.0 | 2.0 | 2.0 |
| 50 | 1.0 | 1.0 | 2.0 | 2.0 |
| 55 | 3.0 | 3.0 | 3.0 | 3.0 |

* The assumptions presented in Table A and Table B on this page were based on a review of SERS's experience from 1996 through 2000. The rates are the probabilities that an event will occur in the year after the valuation. For instance, the male retirement rate of 33% at age 62 means that 330 of every 1,000 male employees age 62 and eligible for full benefits are expected to retire before they reach age 63.

Active Members by Age and Years of Service

| Age Group | Years of Service | | | | | | | Total | Average Salary |
|-------------------------|------------------|---------------|---------------|--------------|--------------|--------------|--------------|---------------|------------------|
| | 0 - 4 | 5 - 9 | 10 - 14 | 15 - 19 | 20 - 24 | 25 - 29 | 30 Plus | | |
| Male | | | | | | | | | |
| < 20 | 24 | - | - | - | - | - | - | 24 | \$ 20,772 |
| 20 - 24 | 826 | 5 | - | - | - | - | - | 831 | 25,861 |
| 25 - 29 | 2,462 | 429 | 5 | - | - | - | - | 2,896 | 32,339 |
| 30 - 34 | 2,760 | 2,670 | 920 | 19 | - | - | - | 6,369 | 40,610 |
| 35 - 39 | 2,159 | 2,211 | 2,646 | 830 | 30 | - | - | 7,876 | 44,214 |
| 40 - 44 | 1,903 | 1,562 | 2,033 | 2,212 | 1,178 | 43 | - | 8,931 | 45,091 |
| 45 - 49 | 1,782 | 1,485 | 1,720 | 1,935 | 2,146 | 1,242 | 107 | 10,417 | 46,971 |
| 50 - 54 | 1,553 | 1,378 | 1,564 | 1,565 | 1,823 | 2,376 | 1,856 | 12,115 | 50,098 |
| 55 - 59 | 1,069 | 1,015 | 1,191 | 1,164 | 1,033 | 1,408 | 2,745 | 9,625 | 52,827 |
| 60 - 64 | 468 | 517 | 614 | 499 | 362 | 340 | 958 | 3,758 | 53,979 |
| 65+ | 216 | 221 | 281 | 175 | 124 | 99 | 320 | 1,436 | 55,093 |
| Total | 15,222 | 11,493 | 10,974 | 8,399 | 6,696 | 5,508 | 5,986 | 64,278 | \$ 46,857 |
| Average Age: | 46.16 | | | | | | | | |
| Average Service: | 13.55 | | | | | | | | |

| Age Group | Years of Service | | | | | | | Total | Average Salary |
|-------------------------|------------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|------------------|
| | 0 - 4 | 5 - 9 | 10 - 14 | 15 - 19 | 20 - 24 | 25 - 29 | 30 Plus | | |
| Female | | | | | | | | | |
| < 20 | 33 | - | - | - | - | - | - | 33 | \$ 21,279 |
| 20 - 24 | 1,028 | 31 | - | - | - | - | - | 1,059 | 25,003 |
| 25 - 29 | 1,878 | 440 | 39 | - | - | - | - | 2,357 | 29,655 |
| 30 - 34 | 1,880 | 1,154 | 690 | 68 | - | - | - | 3,792 | 33,107 |
| 35 - 39 | 1,618 | 1,019 | 1,222 | 765 | 75 | - | - | 4,699 | 35,273 |
| 40 - 44 | 1,781 | 1,120 | 1,265 | 1,226 | 1,250 | 115 | - | 6,757 | 38,185 |
| 45 - 49 | 1,665 | 1,181 | 1,473 | 1,245 | 1,576 | 1,635 | 330 | 9,105 | 41,111 |
| 50 - 54 | 1,240 | 932 | 1,323 | 1,193 | 1,283 | 1,580 | 1,831 | 9,382 | 43,133 |
| 55 - 59 | 682 | 642 | 941 | 978 | 961 | 898 | 1,155 | 6,257 | 43,005 |
| 60 - 64 | 283 | 325 | 495 | 396 | 354 | 314 | 313 | 2,480 | 42,234 |
| 65+ | 95 | 108 | 212 | 142 | 107 | 66 | 130 | 860 | 40,153 |
| Total | 12,183 | 6,952 | 7,660 | 6,013 | 5,606 | 4,608 | 3,759 | 46,781 | \$ 39,198 |
| Average Age: | 45.98 | | | | | | | | |
| Average Service: | 13.48 | | | | | | | | |

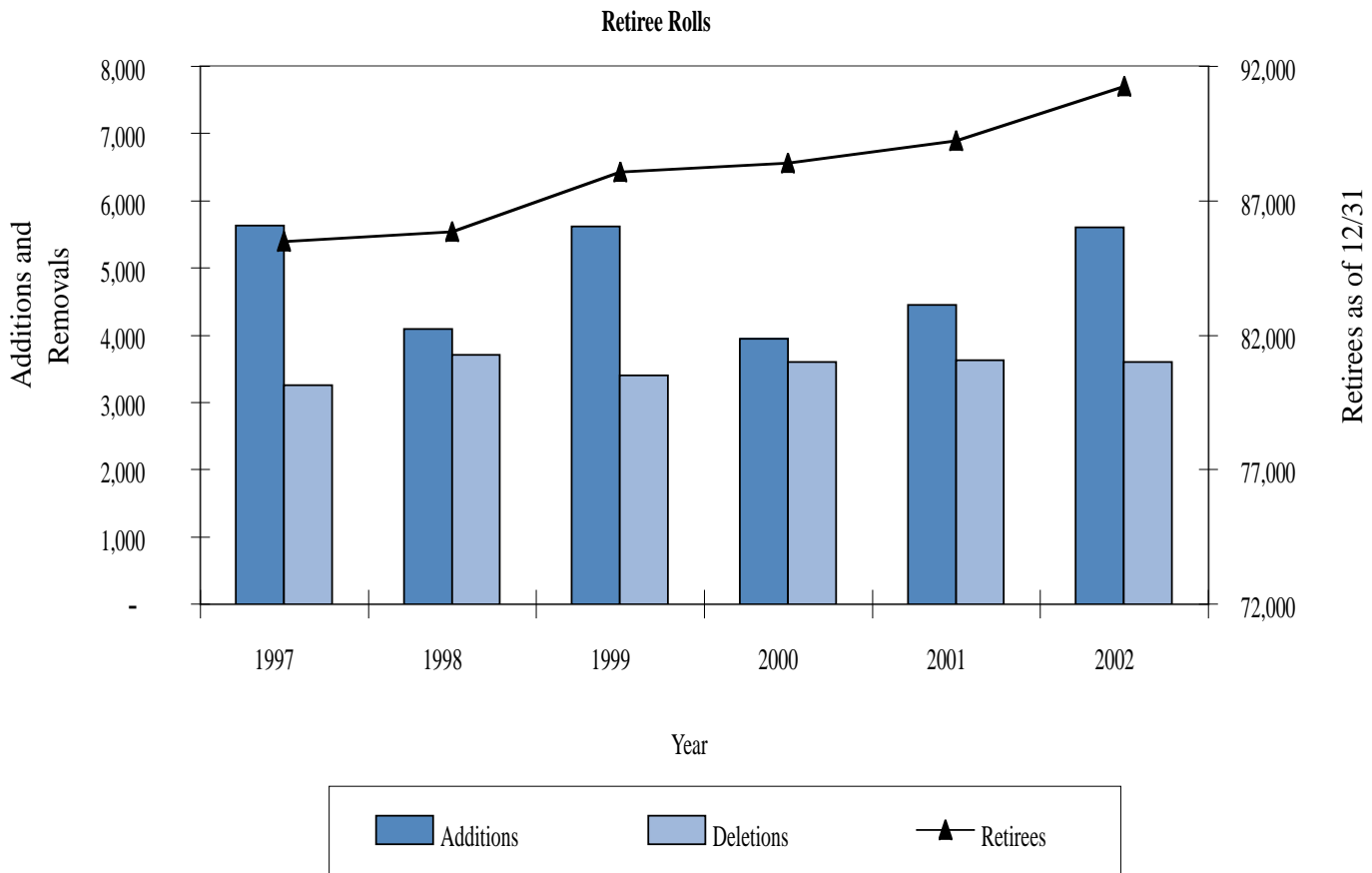
Active Member Valuation Data

| Valuation Date | Number Employers | Number Active Members | Annual Payroll | Annual Average Pay | % Increase in Average Pay |
|----------------|------------------|-----------------------|------------------|--------------------|---------------------------|
| 31-Dec-02 | 105 | 111,059 | \$ 4,846,000,000 | \$ 43,631 | 3.5% |
| 31-Dec-01 | 106 | 109,716 | 4,627,000,000 | 42,172 | 2.6 |
| 31-Dec-00 | 106 | 109,469 | 4,500,000,000 | 41,110 | 3.6 |
| 31-Dec-99 | 106 | 108,035 | 4,289,000,000 | 39,698 | 2.1 |
| 31-Dec-98 | 107 | 108,893 | 4,236,000,000 | 38,898 | 5.3 |
| 31-Dec-97 | 107 | 108,684 | 4,013,000,000 | 36,926 | 3.0 |

Schedule of Retirees and Beneficiaries Added to and Removed from Rolls

Years Ended December 31, 2002 through 1997

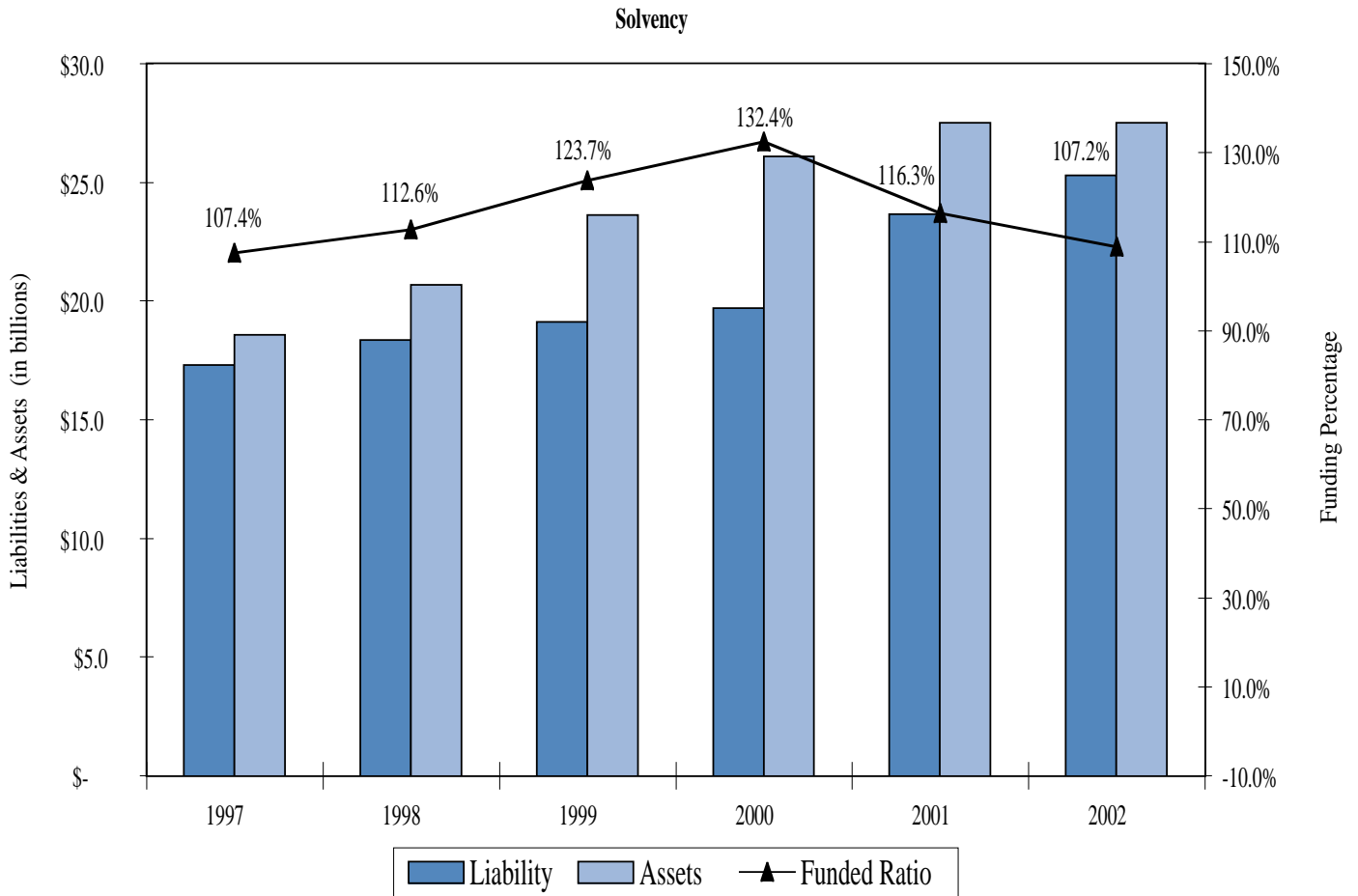
| Year | Added to Rolls | | Removed from Rolls | | Rolls-End of Year | | Percentage Change | |
|------|----------------|-------------------|--------------------|-------------------|-------------------|-------------------|-------------------|------------------|
| | No. | Annual Allowances | No. | Annual Allowances | No. | Annual Allowances | No. | Annual Allowance |
| 2002 | 5,605 | \$ 126,087,119 | 3,594 | \$ 31,408,470 | 91,228 | \$ 1,165,985,640 | 2.25% | 12.92% |
| 2001 | 4,444 | 81,715,244 | 3,619 | 30,654,172 | 89,217 | 1,032,589,104 | 0.93% | 5.00% |
| 2000 | 3,939 | 56,321,173 | 3,590 | 29,591,472 | 88,392 | 983,432,700 | 0.40% | 2.54% |
| 1999 | 5,610 | 95,487,334 | 3,401 | 27,375,031 | 88,043 | 959,067,216 | 2.57% | 7.40% |
| 1998 | 4,084 | 63,468,014 | 3,707 | 21,400,971 | 85,834 | 892,981,308 | 0.44% | 11.38% |
| 1997 | 5,622 | 76,375,192 | 3,251 | 23,370,406 | 85,457 | 801,778,597 | 2.85% | 7.01% |



Solvency Test

Aggregate Accrued Liabilities For

| Valuation Date | (1) | (2) | (3) | Total Actuarial Accrued Liability (AAL) | Actuarial Valuation of Assets | Portion of Accrued Liabilities Covered by Reported Assets | | | Funded Ratio |
|------------------------|-----------------------------|---------------------------|--|---|-------------------------------|---|------|------|--------------|
| | Active Member Contributions | Retirants & Beneficiaries | Active Members (Employer Financed Portion) | | | (1) | (2) | (3) | |
| (Amounts in thousands) | | | | | | | | | |
| 31-Dec-02 | \$ 3,498,672 | \$ 10,129,669 | \$ 12,022,048 | \$ 25,650,389 | \$ 27,497,464 | 100% | 100% | 100% | 107.2% |
| 31-Dec-01 | 3,344,107 | 8,684,734 | 11,629,916 | 23,658,757 | 27,505,494 | 100 | 100 | 100 | 116.3 |
| 31-Dec-00 | 3,182,776 | 8,148,876 | 8,370,626 | 19,702,278 | 26,094,306 | 100 | 100 | 100 | 132.4 |
| 31-Dec-99 | 2,989,489 | 7,779,993 | 8,322,358 | 19,091,840 | 23,624,467 | 100 | 100 | 100 | 123.7 |
| 31-Dec-98 | 2,904,232 | 7,200,000 | 8,253,667 | 18,357,899 | 20,670,711 | 100 | 100 | 100 | 112.6 |
| 31-Dec-97 | 2,748,177 | 6,951,411 | 7,588,825 | 17,288,413 | 18,565,136 | 100 | 100 | 100 | 107.4 |



Analysis of Financial Experience

Gains & Losses in Accrued Liabilities Resulting from Differences Between Assumed Experience and Actual Experience

| <u>Type of Activity</u> | <u>2002</u> | <u>2001</u> | <u>2000</u> | <u>1999</u> |
|--|------------------------------|------------------------------|----------------------------|----------------------------|
| Gain(Loss) from Investment Earnings | \$ (1,204,242) | \$ 182,272 | \$ 1,294,335 | \$ 1,971,870 |
| Demographic Assumptions | 15,798 | (333,766) | 61,092 | 29,667 |
| Pay Increases different than assumptions | (23,957) | 108,201 | (28,655) | 165,852 |
| Other | (27,614) | 481,469 | 151,443 | 31,499 |
| Gain(Loss) During Year From Financial Experience | <u>(1,240,015)</u> | <u>438,176</u> | <u>1,478,215</u> | <u>2,198,888</u> |
| Non-Recurring Items: | | | | |
| Contributions in excess of Requirements | 148,463 | 52,060 | - | - |
| Changes in Actuarial Methods and assumptions | (27,506) | (348,789) | - | - |
| Removal of 30 and Out Funding | - | - | 340,798 | - |
| Act 2001 - 9 Benefits | - | (2,735,791) | - | - |
| Retiree COLA | (621,300) | - | - | - |
| Composite Gain(Loss) | <u><u>\$ (1,740,358)</u></u> | <u><u>\$ (2,594,344)</u></u> | <u><u>\$ 1,819,013</u></u> | <u><u>\$ 2,198,888</u></u> |

Summary of Plan Provisions

Benefit and Contribution Provisions as of December 31, 2002

The State Employees' Retirement System makes provision for retirement, disability, and death benefits for all State employees and certain other eligible groups. The major provisions may be summarized as follows:

Eligible Employees

- Class A All regular State employees and employees of certain Commissions and Authorities and employees of state-owned educational institutions and the Pennsylvania State University (unless such employees have joined the Public School Employees' Retirement System or TIAA-CREF) hired before July 1, 2001 who did not elect into the Class AA membership as of December 31, 2001. This excludes Judges, and District Justices who have elected Class E-1 or Class E-2.
- Class AA All regular State employees who are hired after July 1, 2001, and former Class A State employees hired before July 1, 2001 who elected into Class AA as of December 31, 2001. This includes employees of certain Commissions and Authorities and employees of state-owned educational institutions and the Pennsylvania State University (unless such employees have joined the Public School Employees' Retirement System or TIAA-CREF), but excludes State Police Troopers, Judges, and District Justices, and Legislators with Class D-3 or D-4.
- Class C Liquor Law enforcement officers and other officers and certain employees of the State Police who have been members and employees continuously since prior to March 1, 1974.
- Class D-3 Members of the General Assembly who have been members and employees continuously since prior to March 1, 1974.
- Class D-4 Legislators who are elected after July 1, 2001, and legislators hired before July 1, 2001 who elected into this class, excluding Class D-3 members.
- Class E-1 Judges
- Class E-2 District Justices

Age and Service Requirements for Superannuation (full formula benefits)

- Class AA/A Age 60, with three years of service, except for members of the General Assembly, enforcement officers, correction officers, psychiatric security aids, and officers of the Delaware River Port Authority; for whom the requirement is age 50 with three years of service. Members of Class AA/A with 35 years of credited service are entitled to full formula benefits regardless of age. State Police Officers can retire on full benefits after age 50 or with 20 years of service. Capitol Police and Park Rangers can retire on full benefits at age 50 with 20 years of Capitol Police or Park Ranger service.

- Class C Age 50, with three years of service.
- Class D-3 Age 50, with three years of service.
- Class D-4 Age 50, with three years of service.
- Class E-1 Age 60, with three years of service; or 35 or more years of credited service, regardless of age.
- Class E-2 Age 60, with three years of service; or 35 or more years of credited service, regardless of age.

Formula for Superannuation Annuity

The standard single-life annuity for most members is 2% of the highest three-year average salary of the member multiplied by years and fractions of credited service multiplied by the Multiplier of the Class of membership. The annuity paid to a member shall not exceed the member's highest salary during any period of 12 consecutive months of creditable service.

The multiplier for each of the major classes are as follows:

| <u>Class</u> | <u>Multiplier</u> | |
|--------------|-------------------|---|
| A | 1.00 | For State Police with years of service between 20 and 25, the minimum annuity is 50% of highest annual salary. With more than 25 years of service the benefit is a minimum of 75% of highest annual salary. |
| AA | 1.25 | |
| C | 1.00 | For State Police with years of service between 20 and 25, the minimum annuity is 50% of highest annual salary. With more than 25 years of service the benefit is a minimum of 75% of highest annual salary. |
| D-3 | 3.75 | |
| D-4 | 1.50 | |
| E-1 | 2.00 | For each of the first 10 years of judicial service dropping to 1.5 for each subsequent year of judicial service. |
| E-2 | 1.50 | For each year of judicial service. |

NOTE: There are conditions under which long-service members or members retiring at advanced ages may receive somewhat larger benefits than those described above. Further, benefit limitations exist for most members of Class D-3.

STATISTICAL



*Trend Data**

| | 2002 | 2001 | 2000 | 1999 | 1998 | 1997 |
|------------------------------|---------------|------------|------------|------------|------------|------------|
| Contribution Rates | | | | | | |
| Employer** | 0.00% | 0.00% | 1.39% | 5.00% | 6.70% | 7.28% |
| Member | 6.25% | 5.00% | 5.00% | 5.00% | 5.00% | 5.00% |
| Contributions: | | | | | | |
| Employer | \$ 50,831 | 76,710 | 168,002 | 270,718 | 310,501 | 324,093 |
| Member | \$ 304,233 | 240,528 | 231,666 | 224,928 | 221,618 | 212,556 |
| Average Annual Compensation | \$ 43,631 | 42,172 | 41,110 | 39,698 | 38,898 | 36,926 |
| Market Value of Assets | \$ 20,879,559 | 24,706,063 | 27,880,467 | 28,093,181 | 24,123,358 | 21,311,771 |
| Actuarial Value of Assets | \$ 27,497,464 | 27,505,494 | 26,094,306 | 23,624,267 | 20,670,711 | 18,565,136 |
| Accrued Actuarial Liability | \$ 25,650,389 | 23,658,757 | 19,702,278 | 19,091,840 | 18,357,899 | 17,288,413 |
| Funded Ratio | 107.2% | 116.3% | 132.4% | 123.7% | 112.6% | 107.4% |
| Total Benefits and Refunds | \$ 1,430,417 | 1,245,129 | 1,176,785 | 1,229,348 | 1,062,155 | 1,021,721 |
| Average Pension | \$ 15,445 | 13,656 | 12,935 | 12,520 | 12,027 | 10,555 |
| Annuitants and Beneficiaries | 91,228 | 89,217 | 88,392 | 88,043 | 85,834 | 85,457 |
| Active Participants | 111,059 | 109,716 | 109,470 | 108,035 | 108,893 | 108,684 |

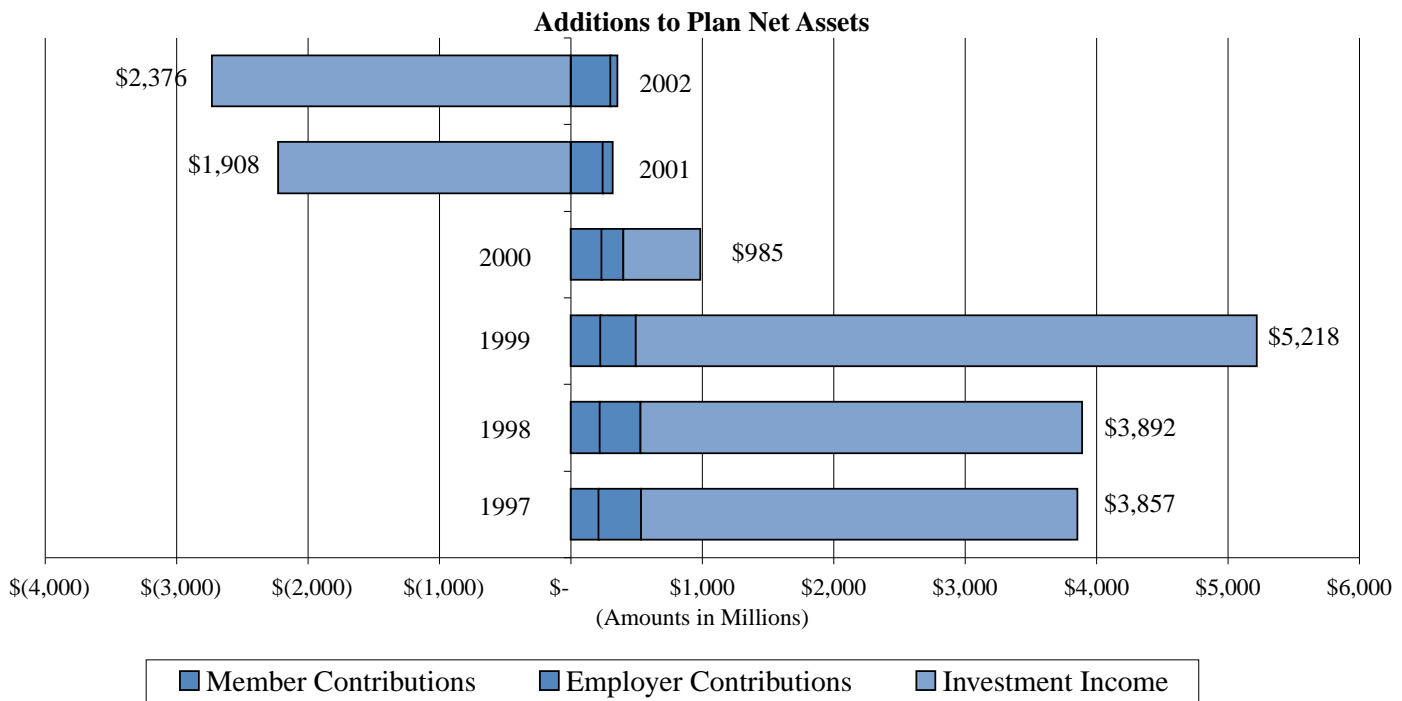
** All Dollar amounts are in thousands, except Average Pension and Average Annual Compensation*

*** Employer rate represents the rate in effect at December 31.*

Schedule of Additions to Plan Net Assets

Years Ended December 31, 2002 through 1997
(Dollar Amounts in thousands)

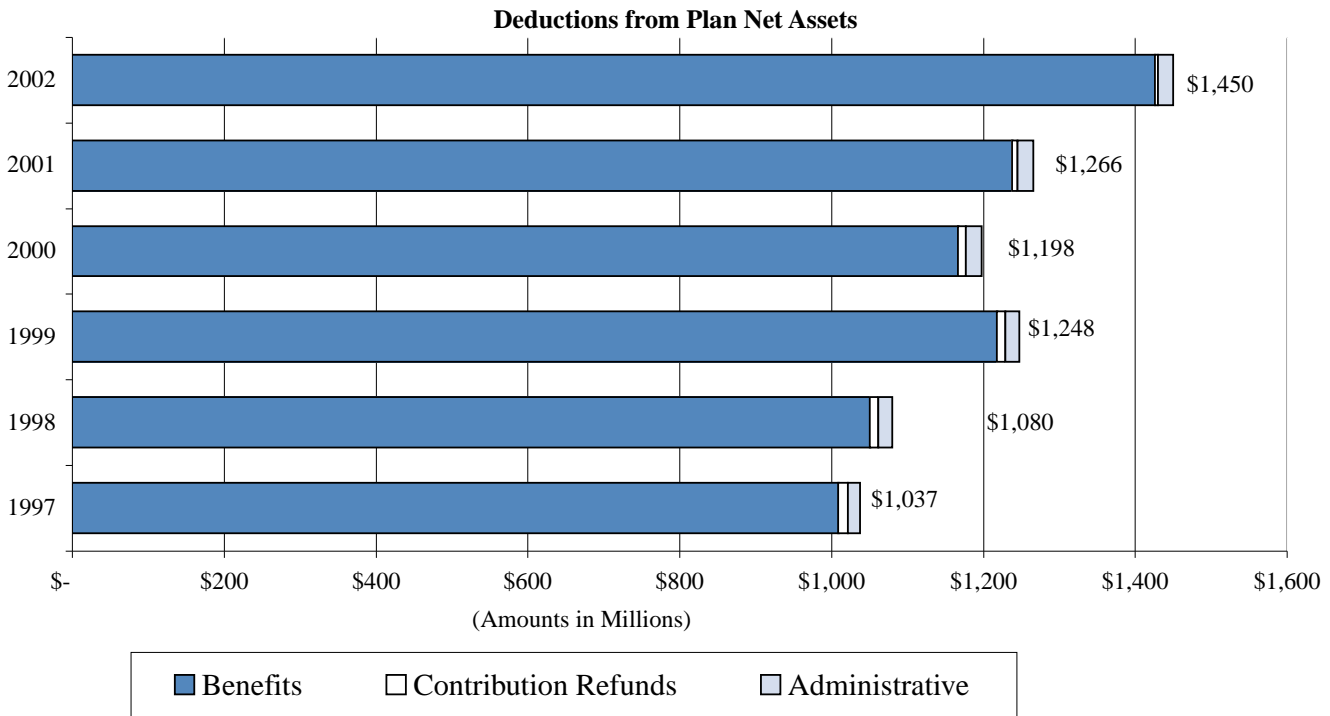
| Year Ending | Member Contributions | Employer Contributions | | Net Investment Income | Total |
|-------------|----------------------|------------------------|-----------------------------|-----------------------|----------------|
| | | Dollars | % of Annual Covered Payroll | | |
| 2002 | \$ 304,233 | \$ 50,831 | 1.0% | \$ (2,731,295) | \$ (2,376,231) |
| 2001 | 240,528 | 76,710 | 1.7% | (2,225,627) | (1,908,390) |
| 2000 | 231,667 | 168,002 | 3.7% | 585,712 | 985,381 |
| 1999 | 224,928 | 270,718 | 6.3% | 4,722,671 | 5,218,317 |
| 1998 | 221,618 | 310,501 | 7.3% | 3,359,844 | 3,891,963 |
| 1997 | 212,556 | 324,093 | 8.1% | 3,320,169 | 3,856,818 |



Schedule of Deductions from Plan Net Assets

Years Ended December 31, 2002 through 1997
(Amounts in thousands)

| Year | Benefits | Refund of Contributions | Administrative | Total |
|------|--------------|----------------------------|----------------|--------------|
| 2002 | \$ 1,426,257 | \$ 4,160 | \$ 19,856 | \$ 1,450,273 |
| 2001 | 1,237,953 | 7,176 | 20,887 | 1,266,016 |
| 2000 | 1,166,897 | 9,888 | 21,309 | 1,198,094 |
| 1999 | 1,218,133 | 11,215 | 19,146 | 1,248,494 |
| 1998 | 1,050,870 | 11,285 | 18,221 | 1,080,376 |
| 1997 | 1,008,648 | 13,073 | 15,542 | 1,037,263 |

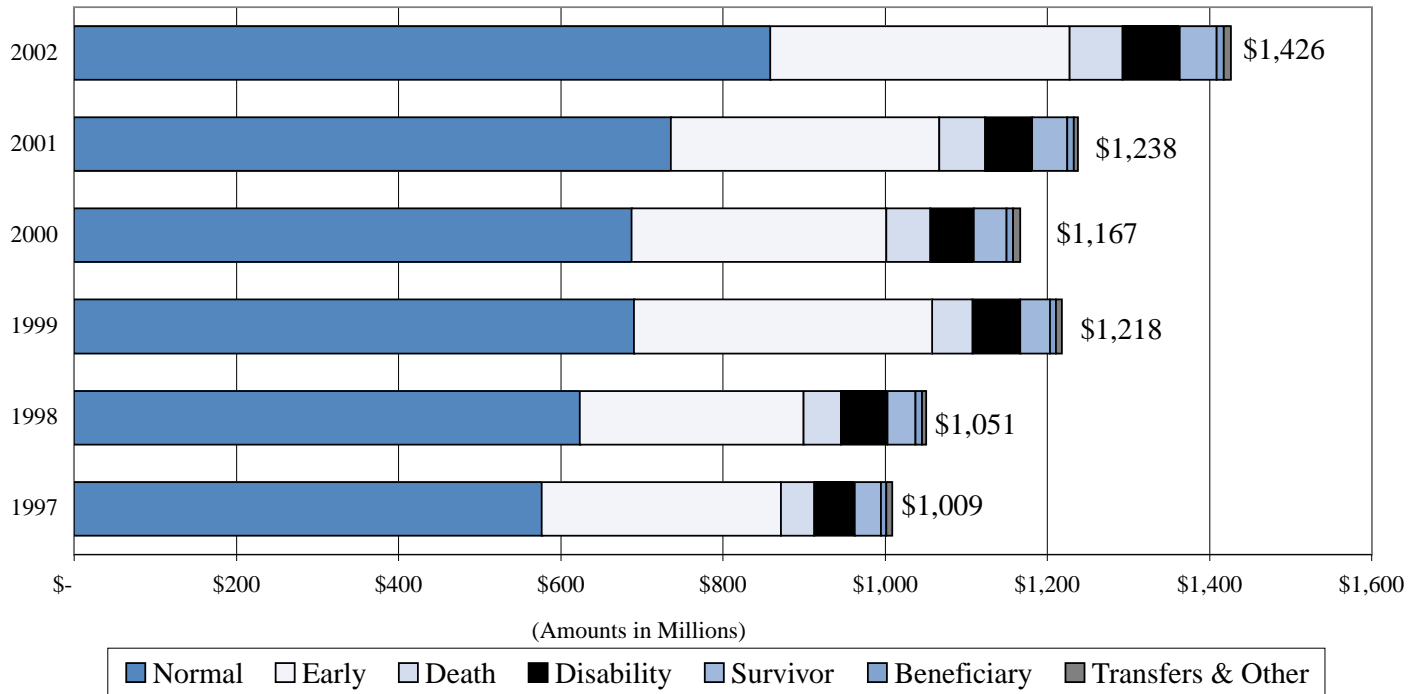


Schedule of Benefit Expenses by Type

Years Ended December 31, 2002 through 1997
(Amounts in thousands)

| Year | Retirement | | Death | Disability | Survivor | Beneficiary | Transfers & Other | Total |
|------|------------|------------|-----------|------------|-----------|-------------|----------------------|--------------|
| | Normal | Early | | | | | | |
| 2002 | \$ 859,078 | \$ 368,778 | \$ 70,703 | \$ 64,789 | \$ 45,439 | \$ 8,902 | \$ 8,568 | \$ 1,426,257 |
| 2001 | 735,919 | 331,445 | 57,744 | 57,254 | 42,689 | 8,115 | 4,787 | 1,237,953 |
| 2000 | 688,410 | 314,014 | 53,785 | 54,112 | 40,037 | 7,948 | 8,591 | 1,166,897 |
| 1999 | 690,840 | 366,515 | 58,675 | 50,496 | 36,830 | 7,283 | 7,494 | 1,218,133 |
| 1998 | 623,980 | 276,428 | 57,465 | 45,691 | 34,681 | 7,527 | 5,098 | 1,050,870 |
| 1997 | 576,576 | 294,824 | 50,287 | 40,898 | 32,063 | 6,871 | 7,129 | 1,008,648 |

Benefits by Type



Schedule of Retired Members by Type of Benefit

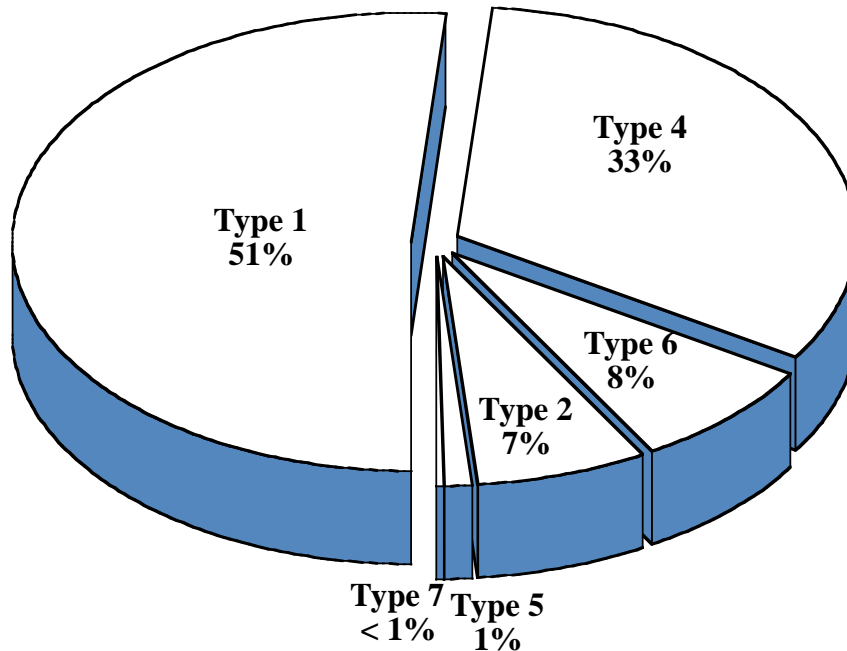
As of December 31, 2002

| Amount of Monthly Benefit | Total Monthly Benefits | Total Number of Retirees | Type of Retirement | | | | | |
|---------------------------------|------------------------------|--------------------------------|--------------------|--------------|---------------|--------------|--------------|------------|
| | | | 1 | 2 | 4 | 5 | 6 | 7 |
| \$ 1 to 500 | \$ 8,035,518 | 31,380 | 10,667 | 973 | 14,500 | 623 | 4,480 | 137 |
| 501 to 1,000 | 18,202,531 | 25,079 | 14,652 | 3,532 | 4,885 | 259 | 1,660 | 91 |
| 1,000 to 1,500 | 16,819,561 | 13,726 | 8,040 | 1,138 | 3,879 | 100 | 521 | 48 |
| 1,500 to 2,000 | 13,491,738 | 7,803 | 4,523 | 386 | 2,666 | 31 | 185 | 12 |
| 2,000 to 2,500 | 10,429,252 | 4,688 | 2,967 | 115 | 1,479 | 22 | 101 | 4 |
| 2,500 to 3,000 | 8,229,019 | 3,001 | 1,908 | 49 | 986 | 13 | 45 | - |
| Over 3,000 | 21,957,851 | 5,551 | 4,087 | 38 | 1,335 | 27 | 62 | 2 |
| Totals | \$ 97,165,470 | 91,228 | 46,844 | 6,231 | 29,730 | 1,075 | 7,054 | 294 |

Type of Retirement

- 1 - Superannuation
- 2 - Disabled
- 4 - Early
- 5 - Beneficiary
- 6 - Survivor
- 7 - Alternate Payee

Retired Members by Type



Schedule of Retired Members by Option

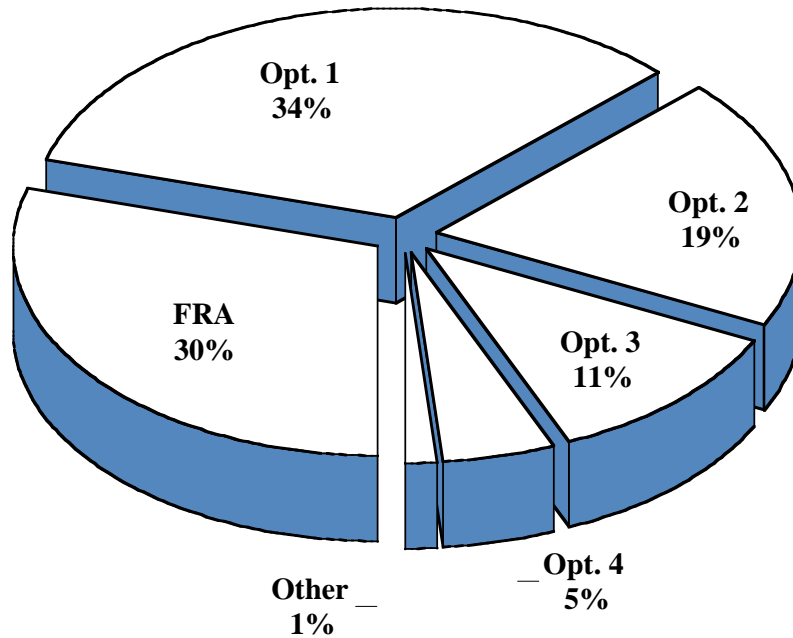
As of December 31, 2002

| Amount of Monthly Benefit | Total Monthly Benefits | Total Number of Retirees | Option Selected | | | | | |
|---------------------------|------------------------|--------------------------|-----------------|---------------|---------------|---------------|--------------|--------------|
| | | | FRA | 1 | 2 | 3 | 4 | Other |
| \$ 1 to 500 | \$ 8,035,518 | 31,380 | 8,287 | 11,892 | 7,132 | 2,830 | 591 | 648 |
| 501 to 1,000 | 18,202,531 | 25,079 | 8,526 | 8,296 | 4,358 | 2,518 | 1,076 | 305 |
| 1,000 to 1,500 | 16,819,561 | 13,726 | 4,107 | 4,473 | 2,476 | 1,682 | 862 | 126 |
| 1,500 to 2,000 | 13,491,738 | 7,803 | 2,223 | 2,369 | 1,261 | 1,152 | 748 | 50 |
| 2,000 to 2,500 | 10,429,252 | 4,688 | 1,300 | 1,308 | 755 | 757 | 538 | 30 |
| 2,500 to 3,000 | 8,229,019 | 3,001 | 862 | 840 | 500 | 492 | 283 | 24 |
| Over 3,000 | 21,957,851 | 5,551 | 2,030 | 1,283 | 664 | 903 | 634 | 37 |
| Totals | \$ 97,165,470 | 91,228 | 27,335 | 30,461 | 17,146 | 10,334 | 4,732 | 1,220 |

Options

- FRA - Full Retirement Allowance
- Opt. 1 - Annuity for Life with beneficiary receiving remainder of Present Value when member dies.
- Opt. 2 - Annuity for Life with beneficiary receiving same annuity when member dies.
- Opt. 3 - Annuity for Life with beneficiary receiving one half the members annuity amount when member dies.
- Opt. 4 - Member designs a different plan approved by SERS not covered under the above option.
- Other - Death Benefit and Domestic Relation Order

Retired Members by Option



Schedule of Average Annual Benefit Payment Amounts

As of December 31, 2002

| <u>Age</u> | <u>Superannuation</u> | | <u>Early Retirement</u> | | <u>Disability</u> | | <u>Beneficiary and Survivor</u> | |
|--------------|-----------------------|---------------|-------------------------|---------------|-------------------|---------------|---------------------------------|---------------|
| | <u>Male</u> | <u>Female</u> | <u>Male</u> | <u>Female</u> | <u>Male</u> | <u>Female</u> | <u>Male</u> | <u>Female</u> |
| Under 25 | - | - | - | - | - | - | \$ 3,455 | \$ 8,436 |
| 25-29 | - | - | \$ 623 | \$ 643 | \$ 10,034 | \$ 10,769 | 13,329 | 7,516 |
| 30-34 | - | - | 1,382 | 954 | 8,690 | 8,273 | 10,210 | 14,083 |
| 35-39 | - | - | 2,003 | 1,348 | 10,087 | 8,408 | 4,247 | 12,397 |
| 40-44 | - | - | 2,990 | 2,108 | 10,702 | 10,370 | 6,234 | 7,910 |
| 45-49 | - | - | 4,988 | 3,033 | 11,592 | 11,225 | 6,879 | 7,189 |
| 50-54 | \$ 28,481 | \$ 24,744 | 10,046 | 6,044 | 12,766 | 12,158 | 3,930 | 8,740 |
| 55-59 | 33,827 | 26,795 | 17,491 | 9,922 | 12,612 | 11,894 | 6,611 | 9,390 |
| 60-64 | 28,614 | 19,406 | 17,025 | 11,600 | 10,919 | 9,640 | 5,391 | 10,371 |
| 65-69 | 20,802 | 14,114 | 13,312 | 8,879 | 9,197 | 8,346 | 6,675 | 8,884 |
| 70-74 | 17,509 | 10,963 | 13,748 | 8,936 | 9,496 | 7,713 | 7,908 | 8,237 |
| 75-79 | 15,474 | 9,775 | 12,161 | 7,696 | 9,284 | 6,989 | 5,773 | 6,626 |
| 80-84 | 12,745 | 8,325 | 11,802 | 7,978 | 8,606 | 6,506 | 6,912 | 5,474 |
| 85-89 | 11,382 | 7,915 | 11,069 | 9,004 | 7,787 | 6,858 | 3,984 | 4,735 |
| 90 over | 11,461 | 8,517 | 8,936 | 9,113 | 5,637 | 4,863 | 4,128 | 4,556 |
| Total | 18,648 | 11,345 | 13,759 | 7,745 | 11,057 | 10,012 | 6,192 | 6,746 |

| | <u>Superannuation</u> | <u>Early Retirement</u> | <u>Disability</u> | <u>Beneficiary and Survivor</u> |
|-------------------------------------|-----------------------|-------------------------|-------------------|---------------------------------|
| Total Average Pension | \$15,445 | \$10,895 | \$10,511 | \$6,697 |
| Total Average Age: Male & Female | 74.2 | 60.1 | 59.8 | 75.4 |

Schedule of Participating Employers

As of December 31, 2002

| | |
|--|---|
| Administrative Office-PA Courts | Department of the Auditor General |
| Bloomsburg University Community Activities | Department of Transportation |
| Board of Probation and Parole | Department of Military and Veterans Affairs |
| Bucks County Community College | East Stroudsburg University Student Association |
| Bucks County Health Department | Edinboro University Services Inc. |
| Bucks County Intermediate Unit | Environmental Hearing Board |
| California University Student Association | Erie County Health Department |
| Cambria County Area Community College | Executive Offices |
| Capitol Preservation Committee | Fish and Boat Commission |
| Center for Rural Pennsylvania | Game Commission |
| Central Susquehanna Intermediate Unit | Governor's Office |
| Chester County Health Department | Harrisburg Area Community College |
| Civil Service Commission | Historical and Museum Commission |
| Clarion University Student Association | House Appropriations Committee(D) |
| Community College of Allegheny County | House of Representatives |
| Community College of Philadelphia | Independent Regulatory Review Commission |
| Delaware County Community College | Indiana University Student Co-op |
| Delaware River Joint Toll Bridge | Insurance Department |
| Delaware River Port Authority | Joint Legislative Conservation Committee |
| Delaware Valley Regional Planning Commission | Joint State Government Commission |
| Department of Aging | Kutztown University Student Services |
| Department of Agriculture | Lancaster-Lebanon Intermediate Unit |
| Department of Banking | Legislative Budget & Finance Committee |
| Department of Community & Economic Development | Legislative Data Processing Center |
| Department of Conservation & Natural Resources | Legislative Reference Bureau |
| Department of Corrections | Lehigh Carbon Community College |
| Department of Education | Lieutenant Governor's Office |
| Department of Environmental Protection | Liquor Control Board |
| Department of General Services | Local Government Commission |
| Department of Health | Lock Haven University Student Co-op |
| Department of Labor and Industry | Luzerne County Community College |
| Department of Public Welfare | Luzerne Intermediate Unit |
| Department of Revenue | Mansfield University Community Services |
| Department of State | Milk Marketing Board |

Schedule of Participating Employers

As of December 31, 2002
Continued

| | |
|---|--|
| Millersville Student Services | Public Utility Commission |
| Montgomery County Community College | Reading Area Community College |
| Northampton Community College | Riverview Intermediate Unit |
| Office of Attorney General | Securities Commission |
| Office of Liquidations | Senate of Pennsylvania |
| Pennsylvania College of Technology | Shippensburg Student Association |
| Pennsylvania Convention Center Authority | Slippery Rock Student Government |
| Pennsylvania Health Care Cost Containment Council | State Employees' Retirement System |
| Pennsylvania Housing Finance Agency | State Ethics Commission |
| Pennsylvania Emergency Management Agency | State Public School Building Authority |
| Pennsylvania Higher Education Assistant Agency | State System of Higher Education |
| Pennsylvania Infrastructure Investment Authority | State Tax Equalization Board |
| Pennsylvania Municipal Retirement System | Susquehanna River Basin Commission |
| Pennsylvania Port Authority | Treasury Department |
| Pennsylvania Public Television Network Commission | Turnpike Commission |
| Pennsylvania State Police | U.S. Property & Fiscal Office for Pennsylvania |
| Pennsylvania State University | West Chester University Student Services |
| Port Authority Transit Corporation | Westmoreland County Community College |
| Public School Employees' Retirement System | |

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State Employees' Retirement System
P.O. Box 1147
Harrisburg, PA 17108-1147