

INTERIM ACTUARIAL VALUATION
CONNECTICUT STATE EMPLOYEES
RETIREMENT SYSTEM
AT JUNE 30, 2003

CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM
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February 9, 2004

State of Connecticut
State Employees Retirement Commission
55 Elm Street
Hartford, CT 06106

Re: Connecticut State Employees Retirement System
June 30, 2003 Actuarial Valuation

Members of the Commission:

At your request, we have made an interim actuarial valuation of the Connecticut State Employees Retirement System (SERS) as of June 30, 2003. The results of the valuation are contained in the following report.

Section I contains an Executive Summary in which we present the principal results of this valuation. Details regarding SERS assets and liabilities are found in Sections II and III respectively. The Appendices contain information regarding SERS membership, an outline of the benefit provisions, and a description of the actuarial methods and assumptions employed in this valuation.

The actuarially determined contribution for the fiscal year beginning July 1, 2004 is \$516,298,168. This contribution was developed from the June 30, 2002 actuarial valuation (as revised by the recertification to reflect the 2003 Early Retirement Incentive Program) and is not changed as a result of this interim valuation.

Respectfully submitted,

Althea A. Schwartz, F.S.A.
Principal and Consulting Actuary

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Principal and Consulting Actuary

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SECTION I

EXECUTIVE SUMMARY

CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM
EXECUTIVE SUMMARY

PURPOSE OF REPORT

Starting with the June 30, 1998 valuation, complete actuarial valuations are performed only every other year. This report presents the results of the June 30, 2003 interim actuarial valuation of the Connecticut State Employees Retirement System (SERS). The primary purposes for performing the valuation are:

- to disclose asset and liability measures as of June 30, 2003; and
- to analyze and report on trends in SERS assets and liabilities over the past several years.

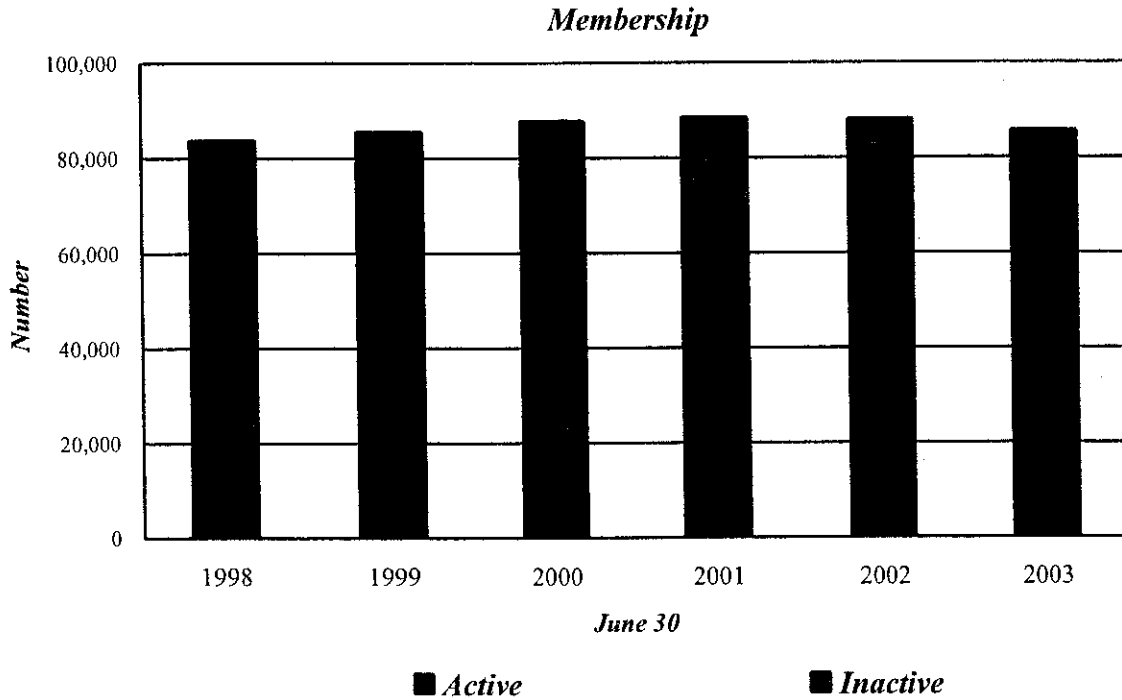
ORGANIZATION OF THE EXECUTIVE SUMMARY

The executive summary contains the following information:

- ***Major Findings...*** shows graphically, key results for several years.
- ***Discussion of Results...*** highlights the major events influencing this valuation.

CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM
EXECUTIVE SUMMARY

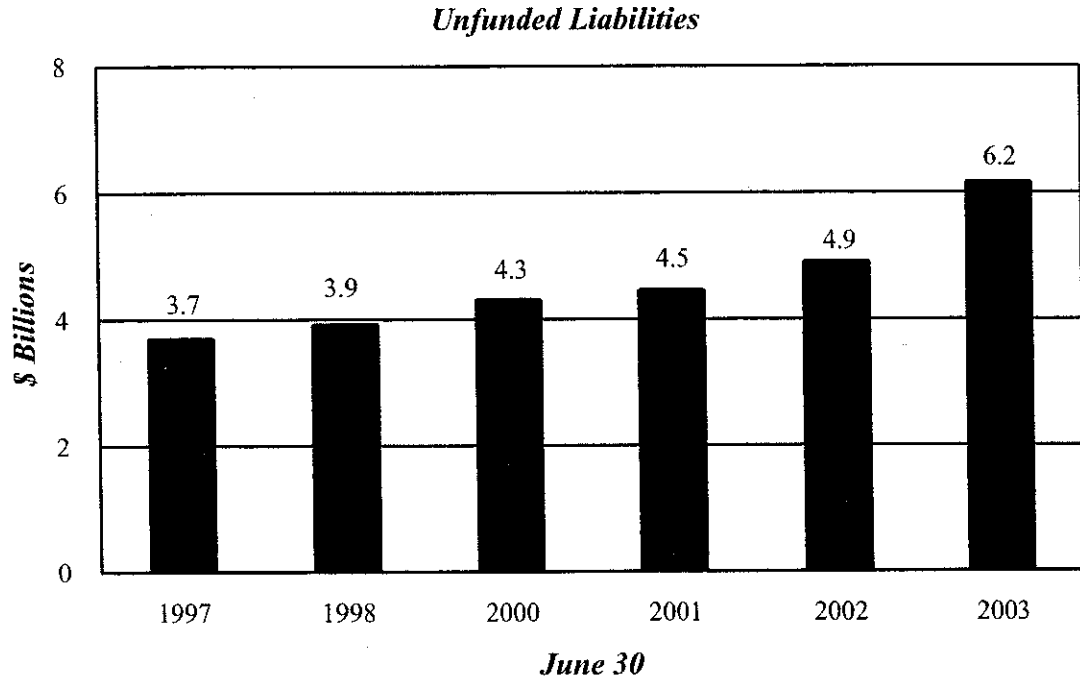
MAJOR FINDINGS



The major change in membership since the last valuation was the election by 4,725 members to retire under the 2003 Early Retirement Incentive Program (ERIP). In addition, several thousand members were laid off. Overall, there are 7,323 fewer active members and 4,878 more inactive members than the last valuation.

CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM
EXECUTIVE SUMMARY

MAJOR FINDINGS



Unfunded actuarial liabilities have increased with this valuation. We expect some increase as a normal outgrowth of the method of paying off this liability: a number of years of increase followed by a gradual decline. The remainder of the increase is largely attributable to continued investment losses and the 2003 Early Retirement Incentive Program.

No value is shown above for 1999 since a complete actuarial valuation was not performed as of that date.

CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM
EXECUTIVE SUMMARY

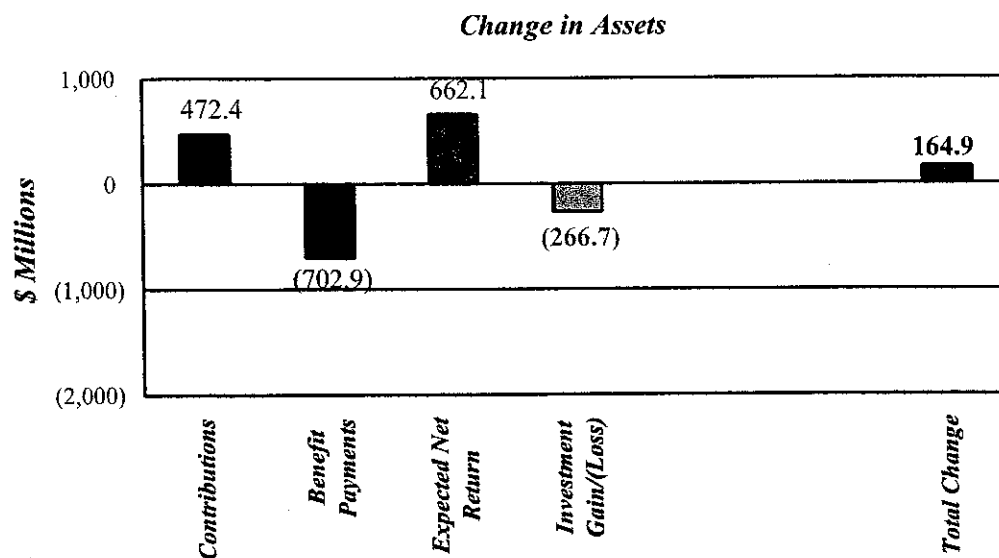
DISCUSSION OF RESULTS

In this section of the Executive Summary, we will discuss the significant events impacting the June 30, 2003 actuarial valuation.

I. Investment Experience

The investment performance was disappointing during the past year. The actual return was 1.91% on a market value basis compared to -6.61% for the prior fiscal year. On a smoothed actuarial basis, the rate was 5.08% compared to 5.84% for the prior valuation, reflecting continuing recognition of market losses from the low returns from the past three years. The assumed rate is 8.50%.

Between June 30, 2002 and June 30, 2003, the actuarial value of assets (measured on a five year smoothing basis) increased by \$164.9 million. This change was attributable to the following:



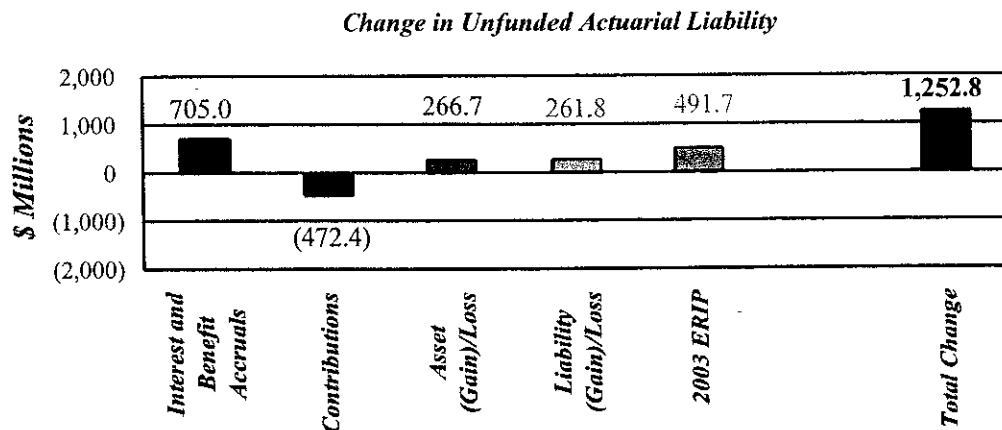
The expected total return on investments shown above is based on an assumed rate of return of 8.50%. However, the recognized investment earnings of \$395.4 million over the year resulted in an actuarial loss of \$266.7 million. More details on SERS assets are presented in Section II of this report.

CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM
EXECUTIVE SUMMARY

DISCUSSION OF RESULTS

III. Unfunded Actuarial Liability

The unfunded actuarial liability is the shortfall between SERS projected liabilities and assets. Since June 30, 2002, the unfunded actuarial liability increased from \$4.9 billion to \$6.2 billion. Each year the unfunded liability increases because of interest and expected benefit accruals and decreases by contributions made to the fund. Asset and liability gains and losses also impact the unfunded liability, as do plan changes and experience. The following chart shows the development of the unfunded actuarial liability from 2002 to 2003:



The liability loss of \$261.8 million over the past year is modest (1.8%) when compared to the total SERS liability of \$14,223.8 million. It is attributable to the difference between actual and expected experience with respect to the number of retirements, employment terminations, disabilities and deaths and data refinements for ERIP members. Salary increases and new employees also contribute to experience gains and losses.

SECTION II

SERS ASSETS

CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM
SERS ASSETS

In this section we present the values assigned to the assets held by SERS. These assets are valued on two different bases: the Actuarial Value and the Market Value.

Actuarial Value of Assets

For purposes of determining ongoing costs, the recognition of gains and losses is spread over five years. The resulting value is called the Actuarial Value of Assets and is further adjusted as necessary so that the final actuarial value is within 20% (plus or minus) of the market value of assets.

Market Value of Assets

The Market Value of Assets represents the "snapshot" or "cash-out" value of SERS assets as of the valuation date. In addition, the Market Value of Assets provides a reference point to compare to current accrued liabilities.

The following tables present information regarding the actuarial and market values of SERS assets as of June 30, 2003.

<u>Table</u>	<u>Contents</u>
II-1	Market Value - Summary of Fund Transactions
II-2	Market Value - Breakdown on Valuation Date
II-3	Development of Actuarial Value of Assets
II-4	Development of Asset Gain/(Loss)

**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM
SERS ASSETS**

TABLE II-1

***Market Value of Assets
Summary of Fund Transactions***

	<i>July 1, 2001 to June 30, 2002</i>	<i>July 1, 2002 to June 30, 2003</i>
<i>Market Value as of July 1</i>	\$7,783,625,739	\$7,088,897,412
<i>Contributions</i>		
State	321,203,059	325,908,490
Federal	94,289,540	95,543,241
Fringe Benefit Transfers	0	0
Employee	49,577,375	50,953,367
Total	<u>465,069,974</u>	<u>472,405,098</u>
<i>Investment Income Net of Expenses</i>		
Interest & Dividends	271,445,717	319,466,083
Realized Gains	1,341,884	9,032,165
Change in Unrealized Gains	(781,112,866)	(194,985,176)
Expenses	(271,967)	(310,622)
Total	<u>(508,597,232)</u>	<u>133,202,450</u>
<i>Disbursements</i>		
Benefit Payments	645,951,309	696,803,446
Employee Refunds	5,249,760	6,075,299
Total	<u>651,201,069</u>	<u>702,878,745</u>
<i>Market Value as of June 30</i>	7,088,897,412	6,991,626,215
<i>Approximate Net Rate of Return</i>	-6.61%	1.91%

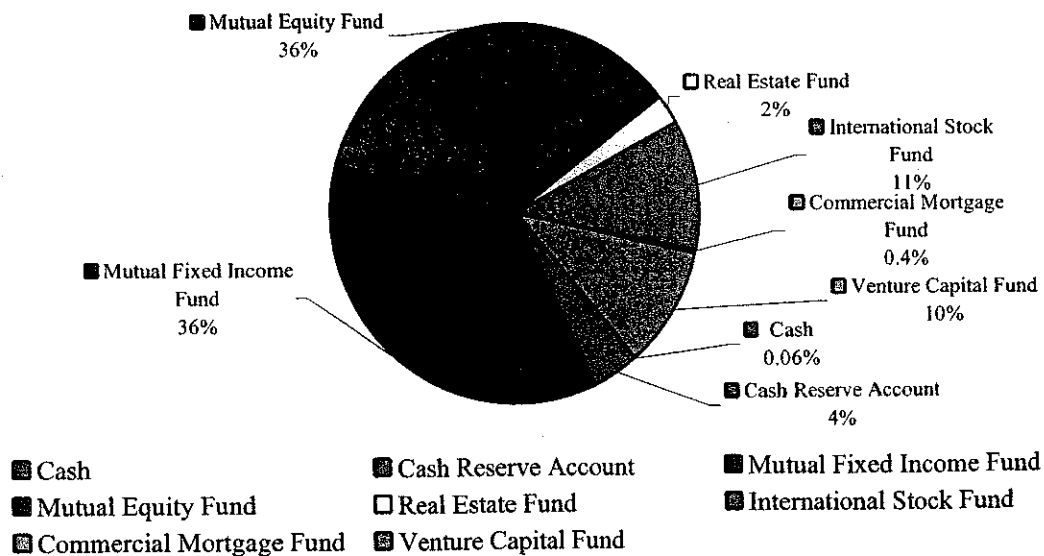
CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM
SERS ASSETS

TABLE II-2

Market Value of Assets
Breakdown on June 30, 2003

The following is the Market Value of the State Employees Retirement Fund assets as reported to us by the Retirement Division:

	<i>Amount</i>	<i>% of Total</i>
Cash	\$4,446,866	0.06%
Accrued Interest	0	0.00%
Investments:		
Cash Reserve Account	288,463,959	4.13%
Mutual Fixed Income Fund	2,515,112,879	35.97%
Mutual Equity Fund	2,498,015,185	35.74%
Real Estate Fund	163,879,606	2.34%
International Stock Fund	784,016,290	11.21%
Commercial Mortgage Fund	27,766,991	0.40%
Venture Capital Fund	709,924,439	10.15%
 Total Market Value as of June 30, 2003	 6,991,626,215	 100.00%



**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM
SERS ASSETS**

TABLE II-3

Development of Actuarial Value of Assets

	<i>Market Value</i>	<i>Actuarial Value</i>
1. Value on July 1, 2002	\$7,088,897,412	\$7,893,683,977
2. Contributions during 2002-03	472,405,098	472,405,098
3. Benefit Payments during 2002-03	702,878,745	702,878,745
4. Expected Investment Income on (1) through (3)*	593,709,549	662,116,407
5. Expected Value on June 30, 2003: (1)+(2)-(3)+(4)	7,452,133,314	8,325,326,737
6. Market Value on June 30, 2003	6,991,626,215	N/A
7. Market Value - Actuarial Value on June 30, 2003	N/A	(1,333,700,522)
8. Preliminary Actuarial Value: (5) + 20% of (7)	N/A	8,058,586,633
9. Final Value on June 30, 2003: (8) within +/- 20% of Market Value		8,058,586,633

* Interest on benefits and contributions is credited on a monthly basis.

**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM
SERS ASSETS**

TABLE II-4

Development of Asset Gain/(Loss)

	<i>Market Value</i>	<i>Actuarial Value</i>
1. Value on July 1, 2002	\$7,088,897,412	\$7,893,683,977
2. Contributions during 2002-03	472,405,098	472,405,098
3. Benefit Payments during 2002-03	702,878,745	702,878,745
4. Expected Investment Income on (1) through (3)*	593,709,549	662,116,407
5. Expected Value on June 30, 2003: (1)+(2)-(3)+(4)	7,452,133,314	8,325,326,737
6. Actual Value on June 30, 2003	6,991,626,215	8,058,586,633
7. Actual Investment Income	133,202,450	395,376,303
8. Asset Gain/(Loss): (7) - (4)	(460,507,099)	(266,740,104)
9. Rate of Return as of June 30, 2003	1.91%	5.08%
10. Rate of Return as of June 30, 2002	-6.61%	5.84%
11. Change	8.52%	-0.76%

* Interest on benefits and contributions is credited on a monthly basis.

SECTION III

SERS LIABILITIES

CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM
SERS LIABILITIES

In this section we present values assigned to the liabilities of SERS and then compare these liabilities to SERS assets.

The actuarial funding method used to determine SERS costs is based on the Projected Unit Credit method. A more detailed description of this method can be found in Appendix C.

<u>Table</u>	<u>Contents</u>
III-1	SERS Liabilities on Valuation Date

CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM
SERS LIABILITIES

TABLE III-1

SERS Liabilities on Valuation Date

	<u>June 30, 2002</u>	<u>June 30, 2003</u>
<i>Tier I Actives</i>		
Hazardous Duty	\$397,745,951	\$233,659,790
Plan B	2,809,912,639	1,925,959,031
Plan C	151,860,367	92,457,238
<i>Total</i>	<u>3,359,518,957</u>	<u>2,252,076,059</u>
<i>Tier II Actives</i>		
Hazardous Duty	849,417,103	984,187,088
All Others	1,305,025,543	1,317,824,234
<i>Total</i>	<u>2,154,442,646</u>	<u>2,302,011,322</u>
<i>Tier IIA Actives</i>		
Hazardous Duty	46,392,204	68,123,495
All Others	73,129,987	99,320,544
<i>Total</i>	<u>119,522,191</u>	<u>167,444,039</u>
<i>Total Actives</i>	5,633,483,794	4,721,531,420
<i>Retirees</i>		
Pre-1980	413,936,953	381,547,332
1980-1997 Fixed COLA	5,542,842,696	5,420,741,946
1997+ Variable COLA	1,073,364,890	3,464,704,680
	<u>7,030,144,539</u>	<u>9,266,993,958</u>
<i>Deferred Vesteds</i>	142,487,141	235,261,026
<i>Total Actuarial Liability</i>	12,806,115,474	14,223,786,404

APPENDIX A

SUMMARY STATISTICS ON SERS MEMBERSHIP

**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM
SUMMARY STATISTICS ON SERS MEMBERSHIP**

<u>Table</u>	<u>Contents</u>
A-1	Detail of Active Membership Data by Plan
A-2	Summary of Inactive Membership Data

CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM
SUMMARY STATISTICS ON SERS MEMBERSHIP

TABLE A-1a

Detail of Active Membership Data by Plan

	<u>June 30, 2002</u>	<u>June 30, 2003</u>
<i>Number of Members</i>		
Tier I Hazardous Duty	960	548
Tier I Plan B	11,073	7,633
Tier I Plan C	606	380
Tier II Hazardous Duty	6,608	6,437
Tier II Others	21,488	19,382
Tier IIA Hazardous Duty	2,462	2,491
Tier IIA Others	11,090	10,093
Total	<u>54,287</u>	<u>46,964</u>
<i>Total Annual Compensation (\$ Millions)</i>		
Tier I Hazardous Duty	\$69.1	\$40.4
Tier I Plan B	734.3	527.2
Tier I Plan C	37.0	23.9
Tier II Hazardous Duty	371.5	391.4
Tier II Others	1,132.7	1,097.2
Tier IIA Hazardous Duty	104.5	127.2
Tier IIA Others	403.0	447.0
Total	<u>2,852.1</u>	<u>2,654.3</u>
<i>Average Compensation</i>		
Tier I Hazardous Duty	\$72,043	\$73,777
Tier I Plan B	66,313	69,065
Tier I Plan C	61,003	62,784
Tier II Hazardous Duty	56,230	60,806
Tier II Others	52,712	56,607
Tier IIA Hazardous Duty	42,462	51,069
Tier IIA Others	36,336	44,289
Total	52,539	56,517

CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM
SUMMARY STATISTICS ON SERS MEMBERSHIP

TABLE A-2

Summary of Inactive Membership Data

	<u>June 30, 2002</u>	<u>June 30, 2003</u>
<i>Retired Pre-1980</i>		
Number	4,931	4,512
Total Annual Benefits (\$ 000s)	\$61,327	\$57,783
Average Annual Benefit	12,437	12,807
<i>Retired 1980-1997, Fixed COLA</i>		
Number	23,687	23,211
Total Annual Benefits (\$ 000s)	\$510,754	\$516,404
Average Annual Benefit	21,563	22,248
<i>Retired 1997+, Variable COLA</i>		
Number	3,736	9,328
Total Annual Benefits (\$ 000s)	\$83,020	\$262,582
Average Annual Benefit	22,222	28,150
<i>Total Retired Members</i>		
Number	32,354	37,051
Total Annual Benefits (\$ 000s)	\$655,101	\$836,768
Average Annual Benefit	20,248	22,584
<i>Terminated Vested Members</i>		
Number	1,496	1,677
Total Annual Benefits (\$ 000s)	\$16,644	\$24,481
Average Annual Benefit	11,126	14,598

APPENDIX B

SUMMARY OF PLAN PROVISIONS

**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM
SUMMARY OF PLAN PROVISIONS**

Established September 1, 1939

1. Membership

Tier I [Sec. 5-160]: Each state employee appointed to classified service shall become a member on the first day of the pay period following permanent appointment.

Each officer elected by the people and each appointee of such officer exempt from classified service may elect to become a member, effective on the first day of the pay period following receipt of such election.

Each other state employee exempt from classified service shall become a member on the first day of the pay period following six months of employment.

Except as noted below employees hired prior to January 1, 1984 could elect (no later than January 2, 1984) to be covered under either Plan B or Plan C. Employees under contracts with Union Independent and CSEA unions hired prior to October 1, 1982 had until October 1, 1984 to make such election.

Tier II [Sec. 5-192e]: Tier II consists of employees first joining the retirement system on or after January 1, 1984 plus employees hired between July 1, 1982 and January 1, 1984 who elected Tier II. Each state employee becomes a member on the first day of employment.

Tier IIA: Tier IIA consists of employees first joining the retirement system on or after July 1, 1997.

2. Normal Retirement Eligibility

Tier I - Hazardous Duty [Sec. 5-173]: 20 years of service.

Tier I - Plans B and C [Sec. 5-162]: Age 55 and 25 years of service, age 60 and 10 years of service, or age 70.

Tier II [Sec. 5-192l] and Tier IIA: Age 62 and 10 years of service (effective July 1, 1992) or age 60 and 25 years of service or age 70 and 5 years of service, except hazardous duty members may retire after 20 years.

**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM
SUMMARY OF PLAN PROVISIONS**

3. Normal Retirement Benefit

Tier I - Hazardous Duty [Sec. 5-173]: 50% of Final Average Earnings plus 2% for each year in excess of 20.

Tier I Plan B [Sec. 5-162]: Same as Plan C up to age 65; thereafter 1% of Final Average Earnings up to \$4,800 plus 2% of Final Average Earnings in excess of \$4,800 times years, reduced for retirement prior to age 65 with less than 25 years. Minimum benefit with 25 years, \$300 per month.

Tier I Plan C [Sec. 5-162]: 2% of Final Average Earnings times years of service, reduced for retirement prior to age 65 with less than 25 years. Minimum with 25 years, \$300 per month.

Tier II Hazardous Duty Members [Sec. 5-192n] and Tier IIA: 2½% of Final Average Earnings times up to 20 years of service plus 2% of Final Average Earnings times years of service in excess of 20 years, if any. Minimum with 25 years, \$300 per month (or less if retirement before July 1, 1987).

Tier II All Other [Sec. 5-192l] and Tier IIA: 1½% of Final Average Earnings plus ½% of Final Average Earnings in excess of the year's breakpoint*, times up to 35 years of service from October 1, 1982 plus 1⅛% of Final Average Earnings times years of service in excess of 35 years, if any. Minimum with 25 years, \$300 per month (or less if retirement before July 1, 1987).

* \$10,700 increased by 6% each year after 1982, rounded to the nearest \$100, but not greater than Social Security Covered Compensation.

4. Early Retirement

Tier I - Hazardous Duty: None.

Tier I [Sec. 5-162]: Age 55 and 10 years of service; Normal Retirement Benefit reduced actuarially for retirement prior to age 60.

Tier II [Sec. 5-192m] and Tier IIA: Age 55 and 10 years of service; Normal Retirement Benefit reduced ¼% (effective July 1, 1991) for each month prior to Normal Retirement Age; Minimum benefit with 25 years, \$300 per month (or less if retirement prior to July 1, 1987).

CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM
SUMMARY OF PLAN PROVISIONS

5. Deferred Retirement

Tier I [Sec. 5-162]: May be deferred but not beyond age 70.

Tier II [Sec. 5-192l] and Tier IIA: May be deferred but not beyond age 70. Benefit is based on salary and service to actual retirement.

6. Vesting

Tier I [Sec. 5-166]: Ten years of service; actuarially reduced benefit payable at age 55; in addition employees are always fully vested in their own contributions (after January 1, 1983, Tier I, contributions with 5% interest from January 1, 1982).

Tier I - Hazardous Duty [Sec. 5-173(f)]: As above.

Tier II [Sec. 5-192o] and Tier IIA: Effective July 1, 1997, five years of service or age 70 and 5 years; benefit payable at Normal Retirement Age or early retirement benefit payable at age 55; minimum benefit with 25 years, payable after age 55, \$300 per month (or less if retirement before July 1, 1987).

7. Member Contributions

Tier I - Hazardous Duty [Sec. 5-161] 4% of earnings up to Social Security Taxable Wage Base plus 5% above that level.

Tier I - Plan B [Sec. 5-161] 2% of earnings up to Social Security Taxable Wage Base plus 5% above that level.

Tier I - Plan C [Sec. 5-161] 5% of earnings.

Tier II - All Other [Sec. 5-192u] None.

Tier II - Hazardous Duty [Sec. 5-192u] 4% of earnings.

Tier IIA - All other 2% of earnings.

Tier IIA - Hazardous Duty 5% of earnings.

CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM
SUMMARY OF PLAN PROVISIONS

8. **Cost of Living**

[Sec. 5-162b, 5-162d]: Annual adjustment each July 1 of up to 5% for retirements prior to July 1, 1980; 3% for retirements after July 1, 1980. For members (or beneficiaries) not covered by Social Security and age 62 and over, the maximum increase is 6%. If an actuarial surplus (as defined in the law) exists, the Commission may further increase retired benefits.

For employees retiring after June 30, 1999, the annual adjustment will be 60% of the increase in the CPI up to 6% and 75% of the increase in the CPI over 6%. This adjustment will be no less than 2.5% and no greater than 6%. Employees retiring between July 1, 1997 and June 30, 1999 will have the irrevocable choice between this formula and a fixed 3% annual adjustment.

Tier IIA: An employee must have at least ten years of actual state service or directly make the transition into retirement in order to be eligible for annual adjustments.

9. **Death Benefits**

Tier I - State Police [Sec. 5-146]: Survivor benefits to spouse of \$670 per month plus \$300 to a surviving dependent child (or \$700 to surviving dependent children).

Tier I [Sec. 5-165a]: If eligible for early or normal retirement, spouse benefit equal to 50% of average of Life Benefit and 50% Joint & Survivor Benefit the member would have received. If not eligible to retire but 25 years, same benefit calculated as though age 55 using service and earnings at death.

[Sec. 5-168]: If not eligible for retirement, return of contributions (after October 1, 1982, Tier I, with interest from January 1, 1982 at 5%).

Tier II [Sec. 5-192r] and Tier IIA: If eligible for early or normal retirement, spouse benefit equal to 50% of member's benefit under a 50% Joint & Survivor Annuity. If not eligible to retire but 25 years, same benefit calculated as though age 55 using service and earnings at death.

[Sec. 5-192t]: If death is due to employment, a spouse with dependent children under 18 will be paid \$7,500 in not less than 60 installments while living and not remarried; also \$20 per month per child under 18. If no children under 18, spouse [or dependent parent(s), if no spouse] will be paid \$4,000 in not less than 60 installments.

CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM
SUMMARY OF PLAN PROVISIONS

10. Disability Benefits

Tier I [Sec. 5-142, 5-169, 5-173]: For non-service disabilities occurring prior to age 60 and after 5 years of service, benefit equals 3% times base salary times years of service (Maximum $1\frac{2}{3}\%$ times service to 65). If disability occurs prior to age 60 and is due to service, benefit equals $1\frac{2}{3}\%$ of salary times service projected to 65 (maximum 30 years) and is payable regardless of length of service. Exception: State Police benefit is accrued benefit if more than 20 years of service. State Police receive an additional benefit of \$360 per month plus \$300 to spouse plus \$300 to a surviving dependent child (or \$700 to surviving dependent children).

Maximum disability benefit is lesser of: 100% of salary less Workers Compensation and Social Security and less non-rehabilitation earnings, or 80% of salary less Workers Compensation and Social Security. Social Security is primary plus family.

Tier II [5-192p] and Tier IIA: Prior to age 65 and due to service or after 10 years of service, benefit is $1\frac{1}{3}\%$ of final average earnings, plus $\frac{1}{2}\%$ of excess earnings times service projected to 65 (maximum 30 years of service to Date of Disability if greater than 30 years). Same maximum as Tier I.

Minimum disability benefit including Workers Compensation and Social Security is 60% of salary.

11. Optional Forms of Payment

Tier I [Sec. 5-165]: 50% Qualified Joint and Survivor (Normal Form if married at least 12 months).

Tier II [Sec. 5-192q] and Tier IIA: 50% or 100% Joint and Survivor (Normal Form if married at least 12 months). Ten years certain and life. Twenty years certain and life. Life (Normal Form if not married at least 12 months).

12. Part-Time Employment

[Sec. 5-162g & Sec. 5-192k]: Service treated as if full-time for eligibility. If consistent part-time for all periods, treat as full-time. If varying schedule or some part-time, some full-time, service and salary proportionately adjusted.

APPENDIX C

ACTUARIAL METHOD AND ASSUMPTIONS

**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM
ACTUARIAL METHODS AND ASSUMPTIONS**

A. Funding Method

The actuarial valuation method used is the *Projected Unit Credit Cost Method*. Recommended annual contributions until the actuarial liability is completely funded will consist of two pieces: Normal Cost plus a payment towards the Unfunded Actuarial Liability.

The *Accrued Liability* is determined directly as the present value of benefits accrued to date, where the accrued benefits for each Member is the pro-rata portion (based on service to date) of the *projected* benefit payable at death, disability, retirement or termination. The Normal Cost is then similarly determined as the present value of the portion of the *projected* benefit attributable to the current year.

The *Actuarial Value of Assets* is determined by first projecting the Actuarial Value forward from the beginning of the prior fiscal year based on the actual cash flow during the fiscal year and the assumed interest rate. The difference between this expected actuarial value and the actual market value is recognized over a five year period, subject to the Actuarial Value remaining within +/- 20% of the Market Value.

The *Unfunded Actuarial Liability* is the Actuarial Liability less the Actuarial Value of Assets.

**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM
ACTUARIAL METHODS AND ASSUMPTIONS**

B. Actuarial Assumptions

<i>Salary Scale</i>	<u>Years of Service</u>	<u>Rate</u>
	0	15.00
	1	15.00
	2	10.00
	3	7.00
	4	6.50
	5	6.00
	10	5.50
	15	4.25
	20	4.25
	25	4.25
<i>COLA</i>	<u>Group</u>	<u>Rate</u>
	Pre July 1, 1980 Retirees	3.75
	1980 – 1997 Retirees	3.00
	Post July 1, 1997 Retirees	2.75
<i>Interest Rate</i>	8.50%	
<i>Payroll Growth Rate</i>	5.00%	
<i>Disabled Mortality</i>	Males	80% of PBGC Disabled Mortality with Social Security for Males
	Females	60% of PBGC Disabled Mortality with Social Security for Females
<i>Healthy Mortality</i>	1994 Group Annuity Mortality Table	
<i>Percent Married</i>	80%	
<i>Disability</i>	<i>Service</i>	Hazardous employees 0.07% at all ages Other employees 0.02% at all ages
	<i>Non-service</i>	25% of United Auto Workers Disability Table

**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM
ACTUARIAL METHODS AND ASSUMPTIONS**

B. Actuarial Assumptions (continued)

Turnover

Ten year select and ultimate rates as shown below for non-hazardous employees; the same table with rates multiplied by a factor of 40% for hazardous employees.

	<u>Years of Participation</u>						
	<u>0-1</u>	<u>2</u>	<u>3-4</u>	<u>5</u>	<u>6-9</u>	<u>10+</u>	
20	40	30	20	15	5	5.0	
25	30	20	10	8	5	5.0	
30	25	20	10	8	5	4.2	
35	25	20	10	8	5	3.0	
40	25	20	10	8	5	2.6	
45	25	20	10	8	5	2.0	
50	25	20	10	8	5	1.2	
55	25	20	10	8	5	0.0	
60	25	20	10	8	5	0.0	

Retirement

	<u>Age</u>	<u>First Year Eligible</u>	<u>All Other Ages</u>
	Hazardous employees	Thru 44	25
45-48		25	20
49-53		10	20
54-55		10	25
56-59		10	40
60-69		25	40
70		100	100

	<u>Reduced Benefits</u>		<u>Unreduced Benefits</u>	
Other employees	55	17.5	15.0	12.5
	56-60	15.0	15.0	12.5
	61	25.0	25.0	15.0
	62	40.0	30.0	30.0
	63	35.0	35.0	25.0
	64	45.0	45.0	25.0
	65	65.0	65.0	40.0
	66-69	60.0	65.0	40.0
70	100.0	100.0	100.0	