TENNESSEE CONSOLIDATED RETIREMENT SYSTEM

VALUATION AND REPORT
AS OF
JULY 1, 2005

November 29, 2005

The Honorable Dale Sims
Chairman, Board of Trustees
Tennessee Consolidated Retirement System
Tenth Floor
Andrew Jackson State Office Building
Nashville, Tennessee 37243-0230

Dear Mr. Sims:

Submitted herewith are the results of an actuarial valuation of the Tennessee Consolidated Retirement System prepared as of July 1, 2005, pursuant to the provisions of TCA Section 8-34-506. Also included are the actuary's recommendations with respect to contributions by the employers.

We trust that this report will be helpful in formulation of policy with respect to the operation and financing of the System. We very much appreciate the opportunity to serve the Board of Trustees, and will be pleased to supplement this report in any way, as you request.

The staff of the Tennessee Consolidated Retirement System has been extremely helpful and cooperative in developing the information required for this valuation. Their cooperation has been greatly appreciated, and is hereby acknowledged.

Respectfully submitted,

Justin C. Thacker, F.S.A.

Anthony S. Johnston, F.S.A.

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Enclosures

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A. INTRODUCTION

An actuarial valuation of the Tennessee Consolidated Retirement System was performed as of July 1, 2005. The purpose of the valuation was to determine the funding requirements of the various components of the System, with the intention that the funding requirements indicated by the valuation would be used as the basis for contributions commencing on July 1, 2006.

The Tennessee Consolidated Retirement System (TCRS) was established as of July 1, 1972 as a successor to the following superseded retirement systems:

Tennessee State Retirement System
Tennessee Teachers' Retirement System
Tennessee Judges Retirement System
Retirement System for County Paid Judges of Tennessee
Attorneys General Retirement System of Tennessee
Public Service Commissioners' Retirement System
Tennessee Retirement System for County Officials

As of the date of establishment, all members and beneficiaries of the superseded systems were covered under the Consolidated System. The assets of each superseded system were transferred to the credit of the Consolidated System, and no further contributions have been made to the superseded systems by either the members or the employers. Separate accounting is maintained under the Consolidated System for the assets and liabilities attributable to the various classes of members and beneficiaries. Benefits under the System are funded by contributions made by members and employers (including the State). The level of such contributions is determined biennially by an actuarial valuation. This report presents the results of the actuarial valuation of the System performed as of July 1, 2005.

The following sections of this report discuss the membership in the System as of the valuation date; the funding levels generated under the approach to funding previously adopted by the Board; the current financial status of the System as a whole and of each major subdivision of the System; an analysis of the factors causing change in the required contribution levels; the validity of the records on which the study was based; the benefits provided by current and superseded systems; and the data on which the valuation was based and the actuarial assumptions utilized in the valuation.

B. MEMBERSHIP

The statute which established the Tennessee Consolidated Retirement System in 1972 specified the three following classifications of employment:

Group I Teachers and General Employees (State and Political Subdivisions)

Group II State Policemen, Wildlife Officers, Firemen and Policemen

Group III State Judges, County Judges, Attorneys General, County Officials, and Public Service Commissioners

Any person who was a member of a superseded system as of June 30, 1972 became a member of the Consolidated System on the date of establishment. Such a member could elect to remain covered by the benefit and contribution provisions of the superseded system of which he was a member, in which case he was classified as a "prior class member". If he did not so elect, he was classified as a member of Group I, Group II or Group III on the basis of his employment category.

Effective July 1, 1976, all new entrants to the System, without regard to their employment category, entered the System as Group I employees. Despite this change, several small groups (those previously classified as "Group III") are treated differently from the bulk of the general employees with respect to funding levels for various reasons.

Effective September 1, 1990, a new Group IV category became available to State Judges. State Judges previously participating in Group I or Group III became eligible to transfer to the new category, and those becoming State Judges on or after the effective date automatically enter Group IV.

The following tables show the number of active and retired members included in the July 1, 2003 and July 1, 2005 valuations.

THE NUMBER AND ANNUAL COMPENSATION OF
ACTIVE MEMBERS INCLUDED IN THE 2003 AND 2005 VALUATIONS

	Number			**Compensation**		
GROUP	2003	2005	***Pct Change***	2003	2005	***Pct Change***
Group I						
Contributory Teachers	66,770	68,364	2.4%	2,762,152,883	3,000,295,689	8.6%
General Employees:						
State	60,459	62,318	3.1%	1,898,939,582	2,133,835,872	12.4%
University of Tennessee (TIAA)	577	488	(15.4%)	50,037,267	45,988,317	(8.1%)
Separately Funded Systems	534	580	8.6%	34,029,309	38,664,956	13.6%
Sub-Total	61,570	63,386	2.9%	1,983,006,158	2,218,489,145	11.9%
Political Subdivisions	71,832	74,048	3.1%	1,725,737,468	1,886,897,919	9.3%
Total - Group I	200,172	205,798	2.8%	6,470,896,509	7,105,682,753	9.8%
Group II						
State Policemen and Wildlife Officers	102	64	(37.3%)	5,676,415	4,033,557	(28.9%)
Firemen and Policemen	109	76	(30.3%)	5,397,737	4,070,284	(24.6%)
Total - Group II	211	140	(33.6%)	11,074,152	8,103,841	(26.8%)
Group III (including Superseded Systems)						
State Judges - Group III	2	2	--	222,120	230,856	3.9%
Attorneys General - Group III	5	3	(40.0%)	520,388	335,148	(35.6%)
County Judges - Group III	5	4	(20.0%)	374,249	281,736	(24.7%)
County Officials - Group III	14	13	(7.1%)	800,195	749,417	(6.3%)
State Judges - Superseded	4	3	(25.0%)	464,928	362,592	(22.0%)
Attorneys General - Superseded	4	3	(25.0%)	372,617	300,166	(19.4%)
County Judges - Superseded	0	0	--	0	0	--
County Officials - Superseded	7	7	--	359,984	372,540	3.5%
Total - Group III	41	35	(14.6%)	3,114,481	2,632,455	(15.5%)
Group IV - Judges	173	177	2.3%	19,348,818	20,537,205	6.1%
State - All Groups	128,656	132,026	2.6%	4,773,298,755	5,245,988,051	9.9%
Political Subdivisions- All Groups	71,941	74,124	3.0%	1,731,135,205	1,890,968,203	9.2%
Grand Total - All Groups	200,597	206,150	2.8%	6,504,433,960	7,136,956,254	9.7%

THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES CURRENTLY PAYABLE TO BENEFICIARIES ON THE RETIREMENT ROLLS

	Number			Amount		
GROUP	2003	2005	*Pct Change*	2003	2005	*Pct Change*
Group I						
Contributory Teachers	29,580	31,867	7.7%	464,867,635	550,942,986	18.5%
General Employees:						
State	27,551	29,785	8.1%	277,618,522	327,542,554	18.0%
University of Tennessee (TIAA)	2,051	2,025	(1.3%)	18,189,926	20,238,360	11.3%
Separately Funded Systems	108	123	13.9%	1,179,708	1,426,354	20.9%
Sub-Total	29,710	31,933	7.5%	296,988,156	349,207,268	17.6%
Political Subdivisions	22,092	24,208	9.6%	108,956,036	130,396,453	19.7%
Total - Group I	81,382	88,008	8.1%	870,811,827	1,030,546,707	18.3%
Group II						
State Policemen and Wildlife Officers	573	592	3.3%	13,929,965	15,819,208	13.6%
Firemen and Policemen	581	591	1.7%	11,597,157	12,878,285	11.0%
Total - Group II	1,154	1,183	2.5%	25,527,122	28,697,493	12.4%
Group III (including Superseded Systems)						
State Judges - Group III	8	0	(100.0%)	42,583	0	(100.0%)
Attorneys General - Group III	10	13	30.0%	211,074	388,696	84.2%
County Judges - Group III	25	25	--	353,845	425,179	20.2%
County Officials - Group III	78	80	2.6%	1,182,455	1,324,248	12.0%
State Judges - Superseded	91	86	(5.5%)	6,015,351	5,711,391	(5.1%)
Attorneys General - Superseded	120	116	(3.3%)	5,200,462	5,454,036	4.9%
County Judges - Superseded	142	126	(11.3%)	4,555,590	4,197,666	(7.9%)
County Officials - Superseded	208	184	(11.5%)	3,937,617	3,716,269	(5.6%)
Total - Group III	682	630	(7.6%)	21,498,977	21,217,485	(1.3%)
Group IV - Judges	61	72	18.0%	1,744,001	2,361,663	35.4%
State - All Groups	60,606	65,094	7.4%	799,028,734	939,548,610	17.6%
Political Subdivisions- All Groups	22,673	24,799	9.4%	120,553,193	143,274,738	18.8%
Grand Total - All Groups	83,279	89,893	7.9%	919,581,927	1,082,823,348	17.8%

C. DETERMINATION OF FUNDING LEVELS

General Method

The statute which established the Tennessee Consolidated Retirement System prescribed a "frozen initial liability" method of valuation, under which an initial unfunded accrued liability is established for each major cost group, and the remainder of the cost of the System is borne by a "normal cost" contribution. Under that method as it is usually utilized, the "normal cost" calculated as a part of each subsequent valuation absorbs any variation of actual from expected experience.

Prior to 1975, the unfunded accrued liability was not being amortized. In that year, a 40-year amortization of the unfunded accrued liability was begun, except that (in accordance with the statute at that time) cost of living benefits remained on a "pay-as-you-go" basis.

In 1977, the statute was changed to provide for advance funding of cost of living benefits. It was decided to amortize the additional accrued liability arising from these benefits as a percent of payroll, rather than by level dollar annual payments. The result was to arrive at a contribution rate consisting of three segments: a "normal cost"; an "accrued liability level dollar" amortization of the unfunded accrued liability for basic benefits; and an "accrued liability percent of payroll" amortization for the additional accrued liability arising from cost of living benefits. For closed groups, all of the unfunded accrued liability was amortized on a level dollar basis.

Under the present statute, the Trustees can decide whether to freeze the prior valuation's unfunded accrued liability, or to reestablish that figure. From time to time, the unfunded accrued liability has been reestablished rather than frozen. Reestablishment has generally occurred when there have been significant changes in benefits or actuarial experience and has been elected in order to more accurately portray the unfunded liability of the system. The long term trend has been for the unfunded liability to decrease due to favorable plan experience in spite of significant benefit improvements.

State

Funding History

In 1981, the State began making the contributions previously made by State Group I employees and teachers associated with higher education, in lieu of part of the salary increase these participants would otherwise have received. Separate contribution rates were developed for "contributory" (K-12) teachers and "non-contributory" (higher education) teachers. These rates were artificially adjusted so as to retain a reasonable relationship between the two rates; exact separate calculations were not made because the total pool of assets accumulated for teachers was not being accumulated separately for the two groups.

In 1983, several improvements were made to the funding program:

1. The unfunded accrued liability was treated as if it had been frozen in 1981, rather than being reestablished. This action had little effect on 1983 contribution rates, but established the desired precedent --- once frozen, the unfunded accrued liability would decrease regularly until it disappeared in 2015.
2. All of the "percent of payroll" amortization piece for State employees and 70% of the equivalent piece for teachers were shifted to the stronger "level dollar" amortization basis.
3. Contribution rates for several of the smaller groups were recombined to reflect more accurately the sources of the money used to fund them.

Separate rates were again computed for "contributory" and "non-contributory" teachers, involving an artificial differential intended to keep the relationship of the two rates reasonable.

In 1984 and again in 1985, the Legislature allocated excess general State funds to the TCRS. Some of these funds were allocated to the superseded ("prior class") State Judges and Attorney General Systems, for which existing funding was not proving adequate. The intention of this infusion of funds was to make it feasible to fund the remaining liabilities of these closed systems in reasonably level dollar amounts over the next 30 years. Other funds were intended to fund in advance the "bonus", "aged teacher" and "aged State employee" programs that had previously been funded on a year-by-year basis from the operating budget.

In 1985, the remaining 30% of the frozen accrued liability for teachers was shifted to the "level dollar" amortization basis. A new set of actuarial assumptions was adopted, based on the 1984 study of actual experience under the TCRS. The rates called for by the 1985 valuation were generally somewhat lower than the rates then being contributed. As a conservative measure, the Board of Trustees voted to continue utilizing the then-current rates, rather than allowing the rates to drop.

Between 1985 and 1987, the TCRS experienced large actuarial gains due to investment earnings substantially in excess of the actuarial assumption of 8.5%. Even when the smoothing procedure utilized since 1981 was applied to plan assets, to avoid undue fluctuations in contribution rates, the strong investment performance of the two-year period generated actuarial gains, lowering the required contribution rates. The Board of Trustees, unsure how the stock market would react to a 500 point decline of the Dow Jones Industrial Average on October 19, 1987, adopted contribution rates which "split the difference" between the then-current rates and the much lower rates called for by the 1987 valuation. Contribution rates for the major groups still dropped significantly; nevertheless, the adopted rates included considerable margins over the "required" rates, in order to minimize the likelihood of having to increase the rates in 1989.

Also in 1987, a "consolidated State" contribution rate covering all groups for whom the State was directly responsible was adopted. This group included higher education (non-contributory) teachers and a closed group of University of Tennessee teachers whose TIAA benefits are supplemented by the TCRS, as well as all Group I and Group II State employees. This change was made for purposes of administrative simplicity, and also to avoid questions concerning classification of higher education employees which had arisen in the past. Teachers who were still contributing to the TCRS (K-12 teachers) remained as a separate group.

Between 1987 and 1989, the valuation "target" rates necessary to continue the 40-year funding program begun in 1975 decreased still further. Several factors contributed to this decline. First, the unfunded accrued liability frozen in 1981 was being amortized by level dollar annual contributions; as the covered payroll increases, as it had each year since 1983, these level dollar amounts represent a decreasing percentage of each year's covered payroll. Second, actuarial gains had emerged. Third, the fact that contributions during the two years actually exceeded the targets called for by the 1987 valuation meant that current assets exceeded the amounts which would have been on hand if the valuation "target" rates had actually been adopted. For all these reasons, the 1989 valuation rates declined significantly from the 1987 rates.

A 1988 study of experience under the TCRS had led to the adoption by the Board of Trustees of a new set of actuarial assumptions for the 1989 valuation. While some of the new assumptions would require less money to go into the trust (for example, it was assumed that continuing participants would receive annual salary increases of 7% each year, rather than 8%), overall the new set of assumptions was more conservative than the old set. Therefore, the "1989 valuation rates" were somewhat higher than they would have been if the new, more conservative set of assumptions had not been adopted.

Because it was felt that most of the conditions which had caused the required contribution rates to decline from 1987 to 1989 would continue to apply after 1989, the Board of Trustees voted to adopt the 1989 "target" rates as the actual contribution rates, effective July 1, 1990.

As expected, the required contribution rates developed in 1991 were lower than the 1989 rates. The Board of Trustees again voted to adopt the 1991 "target" rates as the actual contribution rates, effective July 1, 1992.

The quadrennial experience study performed in 1992 indicated that the demographic assumptions which had been used in the 1989 and 1991 valuations had turned out to be accurate. Investment performance during the proceeding few years had substantially exceeded the 8% interest assumption, and salary increases during the last few years had fallen short of the 7% salary assumption. Therefore, the Board of Trustees took the position that continuing to utilize the same set of actuarial assumptions was an appropriate practice, retaining a reasonable yet conservative approach to the calculation of required contribution rates.

From 1991 to 1993, the System generated unusually large actuarial gains. Investment earnings exceeded expected earnings (on the 8% basis) by over $675,000,000. Freezes on salaries had minimized salary increases during the valuation period, leading to additional large actuarial gains. The effect of these two large sources of gains was to lower required contribution rates substantially.

A further result of these actuarial gains was to create several anomalies in the funding method; the most prominent of which was a "negative normal cost" for the Consolidated State. The unfunded accrued liability of each group for which a contribution rate is obtained had not been reestablished since 1981. During that period, there had been substantial actuarial gains, culminating in the large gains from 1991 to 1993. All of the gains had been absorbed into the "normal cost" component of the contribution. As a result, the remaining unfunded accrued liability had become the major component of the remaining employer liability; in the case of the Consolidated State, the unfunded accrued liability, which had been brought forward as a dollar amount from year to year, exceeded the State's total liability for the group.

In order to remove these anomalies, the Board of Trustees decided, as authorized by TCA Section 8-37-304, to reestablish the unfunded accrued liability for each group. The result was that a much smaller unfunded accrued liability remained for teachers, that unfunded accrued liabilities increased for County Judges and Officials and for State Judges and Attorneys General (Superseded), and that there was no longer an unfunded accrued liability for the other contribution groups.

Actual contributions for the two smaller groups which still had unfunded accrued liabilities were not affected by the reestablishment. Benefits for County Judges and Officials are funded through litigation taxes, so the actuarially determined contribution rate serves only as a benchmark. Superseded State Judges and Attorneys General are being funded by level annual contributions which are intended to pay off the group's <u>total</u> liability by 2015, without regard to the subdivision between "normal cost" and "accrued liability."

Rather than allowing the rates to drop substantially, the Board of Trustees followed the course which had been authorized in previously-approved legislation:

1. Portability among members who had service in more than one membership classification was improved.
2. The base benefit of active and retired members in most categories was increased by 5%.
3. The amortization period for the Contributory Teachers was decreased to 10 years. However, the Board retained the right to increase the amortization period in the future, so long as the resulting amortization period did not exceed the original "40 years from 1975."

Even after these benefit and funding improvements, the 1993 contribution rates for the major groups decreased slightly.

From 1993 to 1995, actuarial experience was not as favorable as it had been in prior years. Although the required contribution rate for Contributory Teachers decreased further, the required contribution rate for the Consolidated State group increased for the first time in several years.

The Trustees adopted the actuary’s recommendation that unfunded accrued liabilities be reestablished for the three groups for which such liabilities existed. Since Section 8-37-305 of the TCA specifies that the accrued liability contribution is to be discontinued for any member classification as soon as the unfunded accrued liability becomes zero, the unfunded accrued liabilities were not reestablished for the groups which had reached that goal in 1993. Reestablishment for the three entities with remaining liabilities was elected in order to maintain a more realistic balance between the accrued liability contribution and the normal cost contribution.

As mentioned above, the Board retained the right to extend the amortization period for Contributory Teachers from the eight-year period remaining from the ten-year amortization schedule adopted in 1993 to a period that in 1995 was permitted to be as much as twenty years. The primary purpose of retaining this right was as a safety valve to avoid undue strain on the State's resources in the event of a future increase in required contributions due to actuarial losses. Reversion to the twenty-year amortization schedule was elected in order to mitigate contribution volatility associated with the leveraged position as plan assets equaled approximately 80% of projected benefit values.

The quadrennial experience study conducted in 1996 led the Trustees to adopt a set of more conservative withdrawal and mortality assumptions for the Contributory Teacher group. The study also concluded that economic assumptions should be revised to reflect lower prevailing rates of inflation, as inflation had declined significantly since the previous review was conducted. Consequently, the assumed investment return rate was revised downward from the 8% per annum rate used in the 1995 valuation to 7.5%. The assumed annual rate of salary increase, which is also expected to contain an inflation component, was revised downward from 7% to 5.5%.

Unrelated to the assumption changes resulting from the experience study was a recommended modification in the asset valuation method. An asset smoothing procedure had been applied in determining the asset value upon which contributions are based since 1981. The purpose of the smoothing process was to dampen the effect of investment volatility so that contributions were not unduly affected by short-term changes in investment results. Under the procedure used in prior plan valuations, fixed income investments had been treated differently than equities and had been valued at book value. Equities were valued by adjusting the book value of the equity portion of the portfolio by a factor which reflected the five-year moving average ratio of the equity market to book values.

While the previous methodology had served the purpose of reducing volatility adequately, the procedure differed from the methods mandated by recently applicable Governmental Accounting Standards Board (GASB) Statements 25 and 27. Under the GASB standards, the entire portfolio, rather than the equity portion only, must be adjusted to recognize changes in market value. The revised methodology approved for the plan expanded the moving average procedure then in use to apply to all plan assets.

The 1997 valuation recognized benefit modifications that were adopted by the legislature in the 1997 Appropriation Act as follows –

1. The arithmetic, or simple, form of cost-of-living adjustment was replaced by a geometric, or compounded, adjustment. The modification was effective January 1, 1998 and included a "catch-up" feature for then current retirees.
2. Salary "loading" for Consolidated State employees hired prior to July 1, 1981 and for whom employee contributions had been eliminated was permanently extended.

3. Contribution rates related to the geometric cost-of-living adjustment and permanent salary extension were implemented effective as of January 1, 1998 and July 1, 1998, respectively.

As of July 1, 1997, an unfunded accrued liability remained for the Contributory Teacher group and two other small groups. The Trustees elected to reestablish the liability for all three groups resulting in the elimination of the unfunded accrued liability for Contributory Teachers and leaving an unfunded accrued liability for only the County Judges and Officials and State Judges and Attorneys General (Superseded).

Contribution rates produced by the 1999 valuation continued to benefit from favorable investment experience. Lower than expected salary increases to Teachers also contributed to lower contribution rates. Factors influencing higher contributions were the addition of new entrants for whom contribution rates were higher because they did not benefit from prior accumulated gains and modifications in valuation programming to accommodate improvements in valuation techniques. The trend for the Teachers employer contribution rate continued to decline. An increase in the State employer contribution rate resulted in the State rate for the first time exceeding that for Teachers.

Between 1997 and 1999, TCRS record keeping procedures were revised to eliminate maintenance of the fund book value. Since prior asset valuation methods were based on a historical comparison of the relationship between book and market value, the valuation asset method was revised for the 1999 valuation. A primary consideration in selecting the revised method was that the prior method should not be altered more than necessary. Under the revised method, the asset value used in computing plan contributions was determined by recognizing “excess earnings” occurring in each preceding year over a five year period following the year of recognition. Excess earnings in a year are earnings above the investment returns that would have occurred if the plan earned the actuarially assumed rate for the year. Excess earnings or losses so computed for each year were phased in ratably over five years. For conservatism, excess gains or losses for a year were applied first to offset accumulated excess earnings on a dollar for dollar basis before phasing in the remainder.

During 1999, an actuarial audit of the primary calculations underlying the valuation was conducted by Buck Consultants. Conclusions and opinions resulting from the audit were discussed in a report prepared by Buck Consultants. Significantly, the audit endorsed the actuarial valuation methodology and the basic liability results used in computing contributions for the TCRS.

A quadrennial experience study conducted in 2000 concluded that economic assumptions including the assumed rate of investment return and the inflation assumption should be unchanged. Modifications were recommended for the salary increase rate and many of the demographic assumptions.

The assumed rate of salary increase employed in the 1999 actuarial valuation was a uniform rate of 5.5% that was applied to all ages. The assumed rate was higher than actual aggregate experience. Also, the pattern of actual salary increase rates was such that increases for younger participants were considerably higher than those for older participants. An age graded scale was recommended to replace the uniform scale. The revised scale was slightly lower than the prior scale but more accurately reflected career salary patterns.

In the four-year period covered by the experience study, post retirement mortality rates improved extending the precedent established in earlier studies. Improvement was observed for both Teacher and State groups. Since the standard tables did not appear to represent the TCRS retiree mortality pattern, a revised table modeled after TCRS experience was developed.

Predicted rates of termination and retirement of both State and Teacher groups were modified significantly to recognize separation patterns measured on the basis of liabilities. The revised tables recommended by the study resulted in increased contribution rates for both groups. Following a policy of gradual absorption of significant contribution rate changes, the Board elected to phase-in the termination rates for the State and Political Subdivision groups ratably over a cycle of three actuarial biennial valuations beginning in 2001.

The aggregate effect of recommended salary and demographic changes (including the decision to phase-in State termination rates) in the 2001 actuarial valuation was to increase Teacher and State employer contribution rates by 0.3% and 1.1% respectively.

Administrative factors for survivorship, early reduction and delayed retirement had been last revised prior to 1990. Since the time of their adoption, the assumed actuarial valuation interest rate was reduced from 8.0% to 7.5%, and mortality improvements had been implemented. Accordingly, the Board recommended modification of the administrative factors as of July 1, 2002.

Plan contributions established by the 2003 actuarial valuation suffered from continued adverse investment experience. Rates of investment return for fiscal years ending in both 2002 and 2003 were below that assumed in the valuation. Contribution rates for the Teacher and State groups increased by 2.1% and 2.8%, respectively, due primarily to the unfavorable investment performance.

In addition, the 2003 valuation recognized the second step in the phase-in process of adopting the recommended termination rates for the State and Political Subdivision groups. Consolidated State contributions increased by 0.40% due to the 2003 change in termination assumptions.

2005 Valuation

Plan contribution rates resulting from the current and preceding valuations are shown in the schedule on page C-12. Plan contributions established by the current valuation continue to suffer from previous adverse investment experience. Rates of investment return for fiscal years ending in 2004 and 2005 were 9.3% and 7.3%, respectively. While these market returns exceeded our assumed return for the two-year period, prior losses from 2001 to 2003 are still being phased-in with the valuation asset smoothing method. Actuarial experience in the aggregate since the 2003 valuation was unfavorable resulting in an increase in the contribution level. The impact of plan experience is discussed further in the Gain and Loss Analysis section of the report. Contribution rates for Teacher and State groups increased by 2.63% and 3.18%, respectively, due primarily to the recognition of prior investment performance.

A quadrennial experience study was conducted in 2004 covering the period of plan operations from July 1, 2000 through June 30, 2004. The study compared the actuarial assumptions used to determine contribution rates with the actual experience of the plan. The review concluded that economic assumptions including the assumed rate of investment return and the inflation assumption should be unchanged. The study also validated the salary increase rates developed with the previous experience study. Modifications, however, were recommended for many of the demographic assumptions.

In the four-year period covered by the experience study, post retirement mortality rates were noted to have improved predominantly in the male population of both the State and Teacher groups, extending the precedent established in earlier studies. As a result, new post retirement mortality rates were recommended to better reflect the actual experience. The effect on employer contributions of adopting the recommended mortality rates was to increase the State rate by 1.09% and decrease the Teacher rate by 0.71%. The Teacher group has a predominantly female population and did not experience mortality improvements in the aggregate during the study period.

The continued pattern of mortality improvement noted in 2004 and previous experience studies is compatible with national trends and suggests that actuarial valuation procedures should be modified to anticipate future improvements. Relatively few public or private plan sponsors, however, have adopted projection mortality tables in which future improvements are recognized. The recognition of future improvements, as opposed to those that have only occurred in the past, was considered but was not incorporated into the current mortality tables. It was recommended that projected mortality (or at least a more conservative mortality assumption) be adopted at the earliest feasible date.

Modifications were also recommended with the 2004 experience study to the termination and retirement rates. The new study validated the need to recognize the final phase-in of termination rates for the State group recommended from the 2000 study, with only a minor additional change recommendation in 2004 (the final phase-in of termination rates for the State group increased the employer contribution by 0.33%). A modification of termination rates for the Teacher group was recommended to better match recent experience. Retirement rates dropped sharply during the study period from 2000 – 2004. Since retirement rate experience could be temporarily related to recent economic cycles, the 2004 study recommended that approximately one half of the reduction in retirement rates be reflected in the actuarial valuation. This assumption will be studied again in 2008, and additional changes can be made at that time if the trend to retire later continues. As a result of adopting recommended termination and retirement rates, employer contribution rates for the Teacher and State groups decreased by 1.28% and 1.50%, respectively. Other changes to the demographic assumptions were minor and did not result in a significant change in employer contribution rates.

The unfunded accrued liability for the major contribution groups was eliminated in earlier valuations. As of July 1, 2005, the unfunded liability was also eliminated for the County Judges and Officials group. An unfunded accrued liability remains for the State Judges and Attorneys General (Superseded) group as of July 1, 2005 and has been reestablished to maintain a reasonable relationship between past and future cost allocations. For the County Judges and

Officials, allocated assets now exceed the present value of benefits. As a result, the 2005 contribution rate shown for this group is zero.

Annual contribution rates include an administrative charge of 0.13%. No significant changes in plan benefits were implemented since the 2003 actuarial valuation.

Adverse experience and assumption changes, discussed above, may dramatically affect political subdivision contribution rates and may result in rates that are difficult to sustain for some entities. In order to reduce contribution volatility, it is recommended that sponsors for whom rate increases are significant be permitted to extend the period upon which unfunded accrued liability amortization payments are based beyond the existing schedules to thirty years.

Future expectations

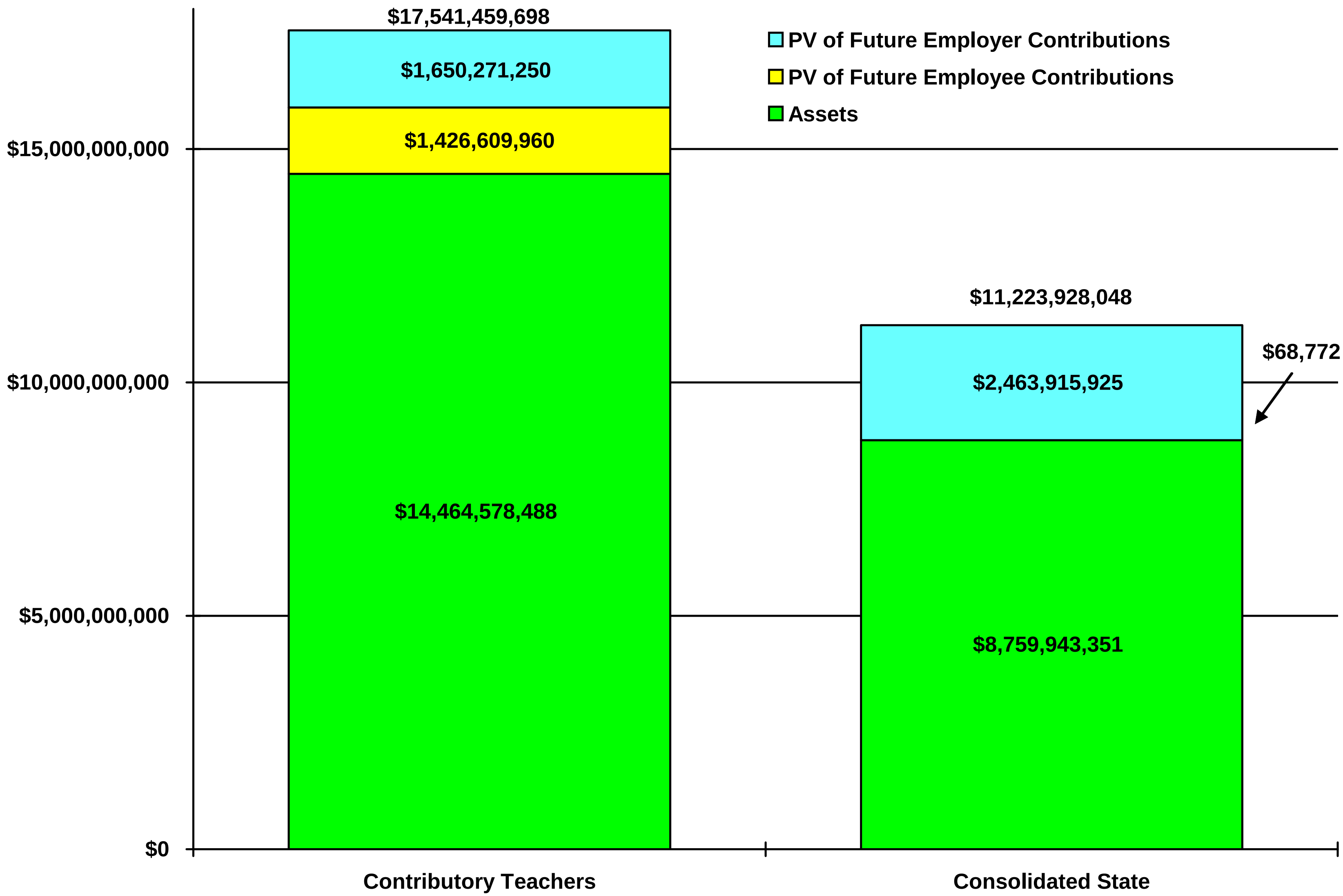
The pattern of plan contributions produced by valuations since 1975 had until 1999 been generally downward. This pattern was due primarily to actuarial gains occurring during that period. However, since 1999, the pattern of plan contributions has been sharply upward for both Teacher and State groups as investment losses have been recognized.

TCRS assets are based upon a valuation asset method that endeavors to reduce contribution volatility by recognizing investment gains and losses ratably over a five-year period from the date of occurrence. Approximately $535,000,000 of investment losses are currently excluded from valuation assets but will be recognized during the next two valuation cycles. Continued recognition of prior investment losses is expected to increase Teacher and State contribution rates again by approximately 1.0% in 2007. Investment performance is the most likely source of future contribution rate volatility.

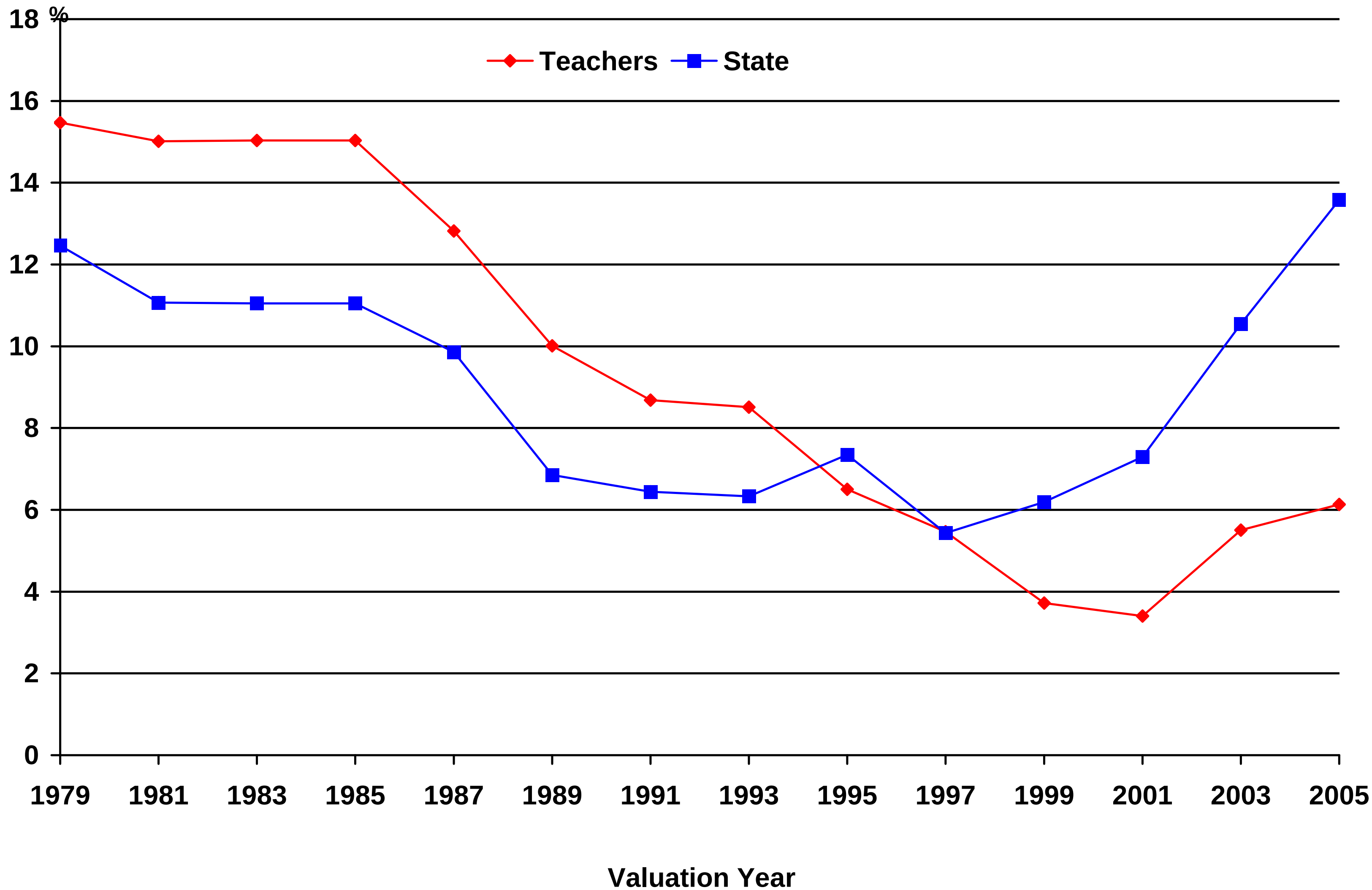
In recent years, there has been upward pressure on contribution rates due to new entrants. Rates for new entrants were generally higher than those for existing participants because they did not have the benefit of past actuarial gains that affected existing participant rates. In the short-term future, new entrants will continue to put upward pressure on the Teacher contribution rates, but new entrants will actually help lower the rate for the State group since the 2005 State contribution rate is now greater than the rate for new entrants (due to recent actuarial losses). Another factor contributing to future contribution rates is the opportunity for rehired former participants to purchase prior service credits. This results in upward rate pressure for both the Teacher and the State groups.

Finally, another risk for future contribution rate increases is the issue of projected mortality. It is believed that the current mortality tables do not adequately recognize expected future mortality improvements, which will put upward pressure on the contribution rates in the future. Adoption of a revised table reflecting projected mortality is recommended at the earliest opportunity.

PRESENT VALUE OF BENEFITS
July 1, 2005



HISTORY OF TCRS CONTRIBUTION RATES



COMPARISON OF TCRS EMPLOYER CONTRIBUTION RATES

	2005 Active Payroll	2003 Contribution Rate	2005 Contribution Rate
Contributory Teachers	$3,000,296,994	5.50%	6.13%
Consolidated State [1]	2,183,857,233	10.54%	13.58%
State Judges (Groups I, III & IV)	20,768,061	14.94%	19.00%
Attorneys General (Groups I & III)	38,734,967	12.82%	14.37%
County Judges and Officials (All) [2]	1,668,831	23.07%	0.00%
State Judges and Attorneys General (Superseded)	662,758	769.48%[3]	849.93%[3]

1 The University of Tennessee pays an additional 10% of covered payroll for TIAA coverage. The rates shown relate only to TCRS benefits.

2 Theoretical contribution rate. Actual funding is the amount received from litigation taxes.

3 The required rate of 849.93% actually represents an annual contribution of $5,632,992, the annual amount required to amortize all liabilities relating to this group over the next 10 years. The contribution amount developed for the 2003 actuarial valuation was $6,444,766.

VALUATION BALANCE SHEET
TENNESSEE CONSOLIDATED RETIREMENT SYSTEM
July 1, 2005

ASSETS	**Total State**	**Contibutory Teachers**	**Consolidated State**	**State Judges (Groups I, III, & IV)**	**Attorneys - Gen. (Groups I & III)**	**County Judges and Officials (All)**	**State Judges & Attorneys-General (Sup.)**
Present assets creditable to:							
State Accumulation Fund	$20,459,800,667	$12,092,738,591	$7,997,015,593	$76,484,920	$70,256,463	$131,158,608	$92,146,492
Members' Fund	3,167,360,134	2,371,839,897	762,927,758	10,552,347	16,378,524	3,598,408	2,063,200
Total Present Assets	$23,627,160,801	$14,464,578,488	$8,759,943,351	$87,037,267	$86,634,987	$134,757,016	$94,209,692
Present value of prospective contributions payable to:							
State Accumulation Fund:							
Normal	$4,165,622,264	$1,650,271,250	$2,463,915,925	$22,698,986	$51,705,156	($23,219,181)	$250,128
Accrued Liability	39,806,610	0	0	0	0	0	39,806,610
Total	$4,205,428,874	$1,650,271,250	$2,463,915,925	$22,698,986	$51,705,156	($23,219,181)	$40,056,738
Members' Fund	1,428,090,406	1,426,609,960	68,772	1,129,000	75,679	185,164	21,831
Total Prospective Contributions	$5,633,519,280	$3,076,881,210	$2,463,984,697	$23,827,986	$51,780,835	($23,034,017)	$40,078,569
Total Assets	$29,260,680,081	$17,541,459,698	$11,223,928,048	$110,865,253	$138,415,822	$111,722,999	$134,288,261
LIABILITIES							
Present value of prospective benefits payable on accounts of:							
Present retired members and contingent annuitants	$10,599,479,029	$6,254,176,498	$4,082,682,672	$25,772,159	$15,481,222	$96,794,628	$124,571,850
Present active members	18,145,343,942	11,068,181,108	6,851,272,925	83,601,255	118,336,464	14,278,184	9,674,006
Former members	515,857,110	219,102,092	289,972,451	1,491,839	4,598,136	650,187	42,405
Total Liabilities	$29,260,680,081	$17,541,459,698	$11,223,928,048	$110,865,253	$138,415,822	$111,722,999	$134,288,261

Political Subdivisions

Until 1983, all participating political subdivisions contributed the same normal cost rate. The balancing item which was used to insure that each political subdivision "paid its own way" was the contribution to amortize the unfunded accrued liability; the unfunded accrued liability was whatever was left for each political subdivision after existing assets and the present value of the "standard" normal cost rate and employee contributions were deducted from the present value of future benefits.

In 1983, the changes made by the State were also offered to the political subdivisions. In particular, each political subdivision was encouraged to freeze its unfunded accrued liability, so that in the future its normal cost would be the balancing item, reflecting actuarial gains and losses. All but about 30 of the more than 400 participating units accepted this change in 1983, and the remaining units did so in 1985.

The next page comprises an actuarial balance sheet showing the assets and liabilities relating to the participating political subdivisions. The split between normal cost and accrued liability contributions for political subdivisions is theoretical, since no summary of the split for individual political subdivisions is available at the time of this report, but all other figures, including the total value of prospective employer contributions, reflect the actual situation. The table also combines the figures for political subdivisions with the aggregate State figures to provide a summary for the entire TCRS.

VALUATION BALANCE SHEET
TENNESSEE CONSOLIDATED RETIREMENT SYSTEM
July 1, 2005

TOTAL SYSTEM

ASSETS	Total State	Polisubs	Grand Total
Present assets creditable to:			
State Accumulation Fund	$20,459,800,667	$3,326,998,155	$23,786,798,822
Members' Fund	3,167,360,134	797,014,927	3,964,375,061
Total Present Assets	$23,627,160,801	$4,124,013,082	$27,751,173,883
Present value of prospective contributions payable to:			
State Accumulation Fund:			
Normal	$4,165,622,264	$1,794,188,580	$5,959,810,844
Accrued Liability	39,806,610	0	39,806,610
Total	$4,205,428,874	$1,794,188,580	$5,999,617,454
Members' Fund	1,428,090,406	472,497,795	1,900,588,201
Total Prospective Contributions	$5,633,519,280	$2,266,686,375	$7,900,205,655
Total Assets	$29,260,680,081	$6,390,699,457	$35,651,379,538
LIABILITIES			
Present value of prospective benefits payable on accounts of:			
Present retired members and contingent annuitants	$10,599,479,029	$1,563,938,839	$12,163,417,868
Present active members	18,145,343,942	4,680,372,225	22,825,716,167
Former members	515,857,110	146,388,393	662,245,503
Total Liabilities	$29,260,680,081	$6,390,699,457	$35,651,379,538

D. GAIN AND LOSS ANALYSIS

The contribution rate for any defined benefit pension plan is based on a set of actuarial assumptions. It is assumed that interest will be earned at a certain rate, that salary increases will be granted according to a certain schedule, and that, in the aggregate, participants will withdraw, become disabled, die, and retire in certain patterns. Assumptions must also be made concerning other events --- for example, the pattern of future social security increases, or the percentage of participants who are married at the time of death.

It is possible to predict what would happen to the present value of benefits, the plan's assets, the normal cost rate, and the unfunded accrued ("past service" or "supplemental") liability from one valuation date to the next if all the actuarial assumptions prove to be exactly correct. Variations from these predicted values arise whenever actual experience differs from the actuarial assumptions. Analysis of these variations can reveal the degree to which actual experience has differed from assumed and can, over a period of years, provide an indication as to the validity of the various actuarial assumptions.

Variations from "predicted" values also can arise from external sources, such as benefit changes and refinement of programming techniques.

A complete gain and loss analysis is a complex, technical task. It requires that the initial valuation be reproduced, predicting the amount of reserve expected to be released due to each type of decrement (death, disability, retirement, withdrawal) and the amount of liability expected to be incurred as a result of those terminations. Similar "expected" values must be obtained for increases in liability due to salary increases, and for changes in assets due to contributions, benefit payments, and interest earnings.

All these quantities must then be compared to actual experience. This process requires tracing each individual from the first valuation, determining if he is still active or, if not, why not and what benefit was paid and/or what liability remains for him.

Because of the complexity of this task, which is exacerbated by the fact that two years elapse between valuations, no gain and loss analysis was attempted for the TCRS prior to 1979. Improvements in data handling procedures allow for enhanced analysis but the primary procedure for analyzing TCRS experience has been the experience study. The most recent experience study covers the period for July 1, 2000 through June 30, 2004 and is set forth in a separate report.

One of the difficulties with a gain and loss analysis is the lack of intermediate check points at which progress can be determined. An initial value is projected, and is compared to an actual value at the end of the period. As a completely separate process, the "gain" or "loss" from each of a number of separate sources is calculated. It is then hoped that the net effect of the various gains and losses will approximately equal the difference between the projected value and the actual value. There is no method by which an individual gain or loss item can be "checked" against an intermediate figure.

Gains and losses may be measured with respect to the present value of benefits, the accrued liability, or the normal cost percentage. Since concern had been expressed in prior years over the growth of the unfunded accrued liability of the TCRS (even though it was being amortized, commencing in 1975), it was decided to perform a gain and loss analysis of that quantity from the June 30, 1977 valuation to the June 30, 1979 valuation, which represented the System's initial attempt at a gain and loss analysis. Similar analyses were performed as part of the 1981 and 1983 valuations. The gain and loss analyses in more recent valuations, however, were conducted with respect to the normal cost percentage, because changes in the accrued liability, which was frozen as of 1981 and eliminated for most funding groups, were no longer meaningful.

The availability of a detailed analysis of past actuarial experience through the experience analysis process mitigates the need for a comparable analysis in the biennial valuation. Due to the availability of accurate detailed information in the experience report, the scope of valuation experience analyses was limited to the more accessible sources of gain and loss. Specifically, gains and losses due to death, disability, and turnover were not analyzed, since it was felt that doing so involved time and expense disproportionate to the attention given the results. Similarly, effects of early and delayed retirement were not quantified.

The table below indicates the effect of each measured assumption upon the 2005 valuation contribution rates.

CAUSES OF CHANGE IN CONTRIBUTION RATE

	Teachers	Consolidated State
Investment results	2.45%	2.43%
Salary increases	(0.22)	0.21
New entrants	0.37	0.21
Retiree mortality	(0.19)	0.14
Social security wage base changes	(0.06)	(0.03)
Cost of living escalation	(0.27)	(0.29)
Prior service purchases	0.07	0.10
Contribution rate change delay	0.30	0.55
Other	0.18	(0.14)
Total	2.63%	3.18%

Presented below is a brief discussion regarding items in the table. Comparisons to assumptions and methods are made to the assumptions and methods used in the previous valuation conducted in 2003.

Investment results - Market value returns on plan assets during the fiscal years ending in 2004 and 2005 were positive 9.32% and positive 7.30% respectively. Investment performance is not reflected directly in the valuation asset amount. Valuation assets are based on a five year moving average of market values. The rate of return on valuation assets during the two year period was approximately 2.5% per year less than the assumed return of 7.5% per annum. Investment deficiencies resulted in valuation assets that were approximately $670,000,000 and $410,000,000 less for the Teachers and Consolidated State groups, respectively, than would have been achieved if returns were equal to the assumed rate.

Salary Increases - The annual average rate of salary increase during the 2003-2005 period for Teachers was 0.5% below the assumed age-based rates used in preparing the 2003 valuation report. General State salary increases during the period were 1.5% above the assumed increment rates.

New Entrants - New entrants have in recent years been a factor contributing to rising contribution rates. State and Teacher groups respectively added over 11,100 and 8,500 new entrants during the past two years. The replacements represent 18% and 12.5% of the active participant census population as of the valuation date. The rate pressure attributable to new entrants is due to their relatively higher employer contribution rates in comparison to rates for continuing participants who benefit from past accumulated actuarial gains. Employees entering the plan during the past two plan years were slightly older at employment than continuing employees and carried employer contribution rates of approximately 8% and 11% for Teacher and State groups respectively.

Retiree Mortality - As indicated by the 2000-2004 actuarial experience analysis, mortality among State employees has improved significantly since post retirement mortality rates were last revised. Lower mortality rates resulting in greater retiree longevity caused an increase in the State employer contribution rate. Experience among Teacher retirees was such that contribution rates actually decreased slightly.

Cost of Living Escalation and Social Security Wage Base Changes - The relatively low inflation experienced during the review period produced arithmetic COLA increases that were less than the assumed rate of 3% per year. COLA adjustments for July 1, 2004 and July 1, 2005 payment dates were 1.9% and 3.0% respectively. Lower than anticipated COLA adjustments among retirees resulted in a lower liability for these participants than expected. Also, less rapid increases in the Social Security wage base than assumed caused future expected payments to active employees to be slightly lower than had been expected, causing a small actuarial gain and contribution rate decline.

Prior Service Purchases and Sick Leave Credits - Employee purchases of prior service credits and credits for sick leave result in liabilities to the plan that are not fully offset by related employee contributions. Prior service was recognized for approximately 3,800 participants during the past two years due to such purchases and credits.

Contribution Rate Change Delay - Contribution rates have generally declined over the past twenty years, and the policy of delaying the application of contribution rates produced by a valuation for one year means that contributions in the year following the valuation were greater than those actually required by the valuation. Such additional contributions were responsible for a decline in rates required by the next biennial valuation. Alternatively, situations in which contribution rates rise produce a contribution deficit and cause rates to increase. For the 2003-2004 fiscal year, continuation of the 2001 valuation report State employee rate of 7.30% resulted in decreased plan assets in comparison to the 10.54% rate anticipated by the 2003 valuation. Consequently, contribution rates for the State group rose by 0.55%. Similarly, the Teachers contribution rate increased between the 2001 and 2003 valuations from 3.40% to 5.50%. The contribution deficit resulting from delaying application of valuation rates in the 2003-2004 fiscal year resulted in a contribution increase of 0.30%.

Other - The "other" category in the table above incorporates items that are not separately identified or are relatively insignificant. It includes retirement experience that indicates that there is a lower incidence of retirement among State employees and Teachers than had been expected. Also included in the “other” category are differences between assumed and actual rates of termination, death and disability.

E. FUNDING STATUS

Until the unfunded accrued liability was frozen in 1981, it was occasionally used as a measure of the actuarial soundness of the funding of the TCRS. Concern was expressed when the unfunded amount was large and/or increasing as was the situation from 1975 to 1981. In fact, the liability is a by-product of the actuarial valuation method utilized to determine contribution rates for a retirement plan and the amount may vary significantly from one method to another. This variability renders comparability among plans on the basis of progress or lack of progress against the unfunded accrued liability standard as an unsatisfactory approach. However, comparability on this basis for a single plan from one year to another may be appropriate as long as the valuation method used for the plan does not change during the period of comparison.

From 1983 through 1987, valuations included an analysis of the Plan Termination Liability (PTL) as a measure of funding progress. This liability is equal to the present value of the benefits which are expected to be paid to retired and other inactive employees, plus the present value of the benefits that have accrued to date for active employees. Thus, it is a measure of the total obligation under the plan in the event the plan were to terminate in the current year. Since it relates strictly to a plan termination situation, the PTL is not a particularly significant figure for an ongoing plan.

In 1987, the Governmental Accounting Standards Board ("GASB") issued its Statement Number 5, setting out information to be disclosed concerning the progress being made in funding a pension plan sponsored by a governmental unit. Statement Number 5 compared the Pension Benefit Obligation ("PBO") to the assets available as of the date of measurement. The PBO increases throughout an employee's career, pro-rating throughout his period of service the liability which is expected to be generated by his benefits. Unlike the PTL, it does not relate to the "shutdown value" as of any given time; it represents a method of spreading the pension cost related to a particular employee throughout his working lifetime, and measuring the amount of that cost which has been accrued as of the date of measurement.

Due to its nature, the PBO as of a particular date does not have any special significance. However, followed over a number of years, the "percentage funded" (i.e., the ratio of assets to PBO) would be expected to increase if progress is being made in the funding of a pension plan and it was reasonable during the period when GASB 5 was effective to make inferences regarding funding progress using this standard.

In 1994, the Governmental Accounting Standards Board revised the methodology to be used in presenting funding progress results to require reporting based upon the a plan’s unfunded accrued liability. This GASB pronouncement relating to financial reporting standards was effective for fiscal years ending June 30, 1997. The statements provide that certain parameters are to be used in determining the unfunded liability position in each year, including a parameter for the measurement of plan assets. A schedule of funding progress based upon comparison to the unfunded accrued liability is to be included in financial statements for the years in which the calculations are consistent with the parameters.

The schedule presented herein is based upon valuation results for the current valuation period only. Information for earlier periods is presented in the TCRS Comprehensive Annual Financial Report. Results displayed in the table below are based upon the aggregate/frozen initial liability actuarial valuation method used by the plan. The unfunded liability used in the calculations has been reestablished for the remaining unfunded group as of the valuation date.

The unfunded liability under the valuation method used is zero as of the valuation date for the primary groups, Teachers and Consolidated State, and three other groups. A liability exists however for one other minor group with the result that the plan in total retains a small liability under the valuation method. The amortization basis for the group that has a remaining unfunded liability is indicated in foot notes to the Comparison of TCRS Employer Contribution Rates Table on page C-12.

Funding for groups for which the liability has been reestablished to zero is allocated over the future working lifetime of present plan participants. This process results in an equitable allocation of the cost of benefits payable to current plan participants among future generations.

Tennessee Consolidated Retirement System
Schedule of Funding Progress
July 1, 2005

Funding Group	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability	Funded Ratio	Covered Payroll	Unfunded Actuarial Accrued Liability as a Pct of Covered Payroll
Teachers	14,464,578,488	14,464,578,488	0	100.00%	3,000,296,994	na
Consolidated State	8,759,943,351	8,759,943,351	0	100.00%	2,183,857,233	na
State Judges (I, III, IV)	87,037,267	87,037,267	0	100.00%	20,768,061	na
Attorneys General (I, III)	86,634,987	86,634,987	0	100.00%	38,734,967	na
County J & O (All) *	134,757,016	134,757,016	0	100.00%	1,668,831	na **
State Judges & Atty Gen (Sup.) *	94,209,692	134,016,302	39,806,610	70.30%	662,758	na **
Total State	23,627,160,801	23,666,967,411	39,806,610	99.83%	5,245,988,844	0.76%
Political Subdivisions ***	4,124,013,082	4,124,013,082	0	100.00%	1,890,967,735	na
Total	27,751,173,883	27,790,980,493	39,806,610	99.86%	7,136,956,579	0.56%

***   Systems closed to new membership prior to 1977.**
**** Actual funding of liabilities for closed groups is based upon payment methods that are not related to payroll.**
***** Political subdivision results are presented in the aggregate and are not representative of results for individual entities.**

F. VALIDITY OF DATA

The quality of the records available on retired members and on active members was excellent. Almost every record relating to a retired life was used in the valuation. Similarly, very few records on active participants had to be excluded due to questionable data. A list of the records containing apparent discrepancies has been furnished to the staff of the System.

In addition to retired and active members, the master records of the System contain approximately 24,800 records for former members with deferred vested benefits and approximately 35,900 records on other terminated members. Of this latter group, about 19,000 relate to those who terminated without vested benefits, but who have not withdrawn their contributions, and the remaining 16,900 relate to those for whom records are incomplete for various reasons, such as failure to complete membership cards, reporting contradictory social security numbers, etc.

For inactive members with vested benefits, the vested benefit was calculated and the value of the benefit was compared with the current value of the member's accumulated contributions; the larger of the two amounts was established as a liability of the System. For all other "miscellaneous" categories, the amount of each member's accumulated contributions was established as a liability of the System; thus, some liability was established for each of these records.

Records on active participants were obtained from the master file which has been built on all TCRS participants. The records were examined extensively with only minor discrepancies being observed. In general, the TCRS records seem to be in excellent condition, especially for a system which is so large and which receives data from so many widely-dispersed sources.

G. BENEFIT PAYMENT PROJECTION

Advance funding for TCRS is based upon ongoing plan concepts including recognition of the likelihood that currently active participants will retire in the future. An examination of the incidence of future benefit payments can be of interest to financial managers in forecasting future cash flows from the plan. Such information is valuable in assessing the liquidity needs that must be satisfied by plan investments in order to satisfy the needs of participants.

Plan benefits are funded by means of employee and employer contributions accumulated in advance of the benefit payment commencement date. Consequently, significant funds build up within the plan during the working lifetime of participants. The following table provides a projection of expected benefit payment patterns. The projection is based upon assumptions utilized in preparing the actuarial valuation. The assumptions include those regarding future salary levels, retirement dates, incidence of disability and mortality and annual cost of living adjustments.

Payments in the table are separated into amounts paid to existing retirees and amounts paid to current and future active employees who are expected to retire in the future. Payments to existing retirees decline with increases attributable to cost of living adjustment mitigating decreases related to the incidence of mortality. In the aggregate, the decline in payments to existing retirees is more than offset by the influx of new retirees. The net effect of various factors on the retirement payment pattern is that benefit payments from the TCRS during the twenty year projection period are expected to increase by an average of approximately 6.4% per annum. Some variation in benefit payment growth is projected with the highest rates of increase expected to occur immediately with increases of over 10% anticipated.

BENEFIT PAYMENT PROJECTION

Year	*Current retirees*	*Current and future active employees*	*Total*
2005	$1,062,709,856	$60,783,376	$1,123,493,232
2006	1,061,091,752	184,237,076	1,245,328,828
2007	1,057,761,657	310,967,250	1,368,728,907
2008	1,052,648,430	443,319,074	1,495,967,504
2009	1,045,458,556	580,092,661	1,625,551,217
2010	1,036,510,717	721,054,225	1,757,564,942
2011	1,025,547,719	866,653,318	1,892,201,037
2012	1,012,507,826	1,015,549,745	2,028,057,571
2013	997,315,617	1,166,835,484	2,164,151,101
2014	979,998,804	1,321,544,211	2,301,543,015
2015	960,509,774	1,480,183,705	2,440,693,479
2016	938,835,659	1,641,564,385	2,580,400,044
2017	914,973,829	1,803,901,648	2,718,875,477
2018	888,953,347	1,966,686,495	2,855,639,842
2019	860,832,281	2,131,905,824	2,992,738,105
2020	830,700,658	2,295,226,182	3,125,926,840
2021	798,675,773	2,456,006,656	3,254,682,429
2022	764,889,861	2,617,546,247	3,382,436,108
2023	729,494,601	2,778,796,030	3,508,290,631
2024	692,673,663	2,940,273,549	3,632,947,212

H. OUTLINE OF BENEFIT AND CONTRIBUTION PROVISIONS

(As Amended through July 1, 2005)

Any person who becomes a teacher not participating in a local retirement fund, a general employee of the State, a state policeman, or a wildlife officer on or after July 1, 1972 becomes a member of the Tennessee Consolidated Retirement System as a condition of employment. Membership is optional for any person who becomes a state judge, a part-time employee, a commissioner, a county judge or county official in a participating political subdivision, an attorney general, an assistant attorney general, a criminal investigator, or an elected or appointed official of the general assembly. Membership is mandatory for any person employed on or after July 1, 1993 as an attorney general in the office of the Attorney General and reporter. Membership is compulsory for other employees of participating political subdivisions, except that for employees in service on the date the political subdivision commences participation, membership is optional.

A member of a superseded system as of June 30, 1972 had the choice of becoming a Group I, II, or III member of the Consolidated System according to his employment classification, or remaining subject to the benefit and contribution provisions of the superseded system as a "prior class" member with all rights, benefits and privileges under the superseded system. This choice was extended to members eligible to enter Group III prior to September 1, 1974. A transferred former Class A or Class B member of the System who is not a prior class member receives the greater of the retirement allowance provided under the Consolidated System or the superseded system. Effective July 1, 1976, all new members began to enter Group I, regardless of employment classification. Effective September 1, 1990, new state judges began to enter a new Group IV; Group I and Group III state judges could elect to transfer to this new category.

"Creditable service" means membership service under the Consolidated System for which contributions are made by the member, plus prior service credited under a superseded system as of June 30, 1972. Additional service may also be credited for certain periods of military service and service before the date of membership for which the member makes the required contributions.

The term "Average Final Compensation "(AFC) means average compensation during the five consecutive years of creditable service producing the highest average. "Social Security Integration Level" (SSIL) means, for the calendar year in which a member retires, the average annual amount of earnings (rounded to the nearest multiple of $600) with respect to which old age and survivors' benefits would be provided under Title II of the Federal Social Security Act for a male employee attaining age 65 in such calendar year, computed as though for each year prior to such calendar year, annual earnings are at least equal to the maximum amount of earnings subject to contributions under the provisions of the Federal Insurance Contributions Act. The SSIL is $43,800 in 2005 and will be $46,200 in 2006. "Social Security Base" (SSB) means for each calendar year the amount of a member's compensation subject to Social Security contributions, except that for years prior to 1966 SSB means $6,600 for the superseded Teachers' System. For the period prior to July 1, 1963 SSB means $4,200 and for the period between July 1, 1963 and January 1, 1966 SSB means $4,800 under the superseded State System.

"Benefit Base" (BB) means the annual salary in the position from which certain prior class members in a superseded system covering elected officials retired, as of the dates of their retirement; except that for members who are eligible for escalation, the Benefit Base is increased to reflect any post-retirement changes in annual salary for the position from which the member retired.

The regular form of benefit under the System is a monthly annuity payable to the member for life, with all payments ceasing at his death. In lieu of the regular benefit, a member may elect an optional plan to convert his allowance into a reduced benefit of equivalent actuarial value in accordance with one of the following options:

> Option I - In the event of the member's death, the designated beneficiary will receive 100% of the member's reduced monthly benefit for life.
>
> Option II - In the event of the member's death, the designated beneficiary will receive 50% of the member's reduced monthly benefit for life.
>
> Option III - In the event of the member's death, the designated beneficiary will receive 100% of the member's reduced monthly benefit for life. Should the beneficiary die before the member, the benefit payable to the member reverts to the unreduced regular benefit.
>
> Option IV - In the event of the member's death, the designated beneficiary will receive 50% of the member's reduced monthly benefit for life. Should the beneficiary die before the member, the benefit payable to the member reverts to the unreduced regular benefit.
>
> Social Security Adjustment - A member may convert his retirement allowance into an increased benefit payable prior to the date he is eligible to receive Social Security benefits and a reduced allowance payable after that date, so that his total income will be approximately the same before and after the commencement of Social Security payments.

Benefits payable to retired members are increased on each July 1 according to the percentage increase in the Consumer Price Index during the preceding calendar year, provided that the increase will not exceed 3% of the current benefit in any year, and provided that the member has been retired for at least 12 months. Prior to July 1, 1998, the CPI increase percentage was applied to the initial base, rather than the current benefit.

Every member is guaranteed the return of his account balance arising from his own contributions (including interest) either as benefit payments to him or his designated beneficiary, or upon his death or termination as a lump sum amount equal to the excess of his accumulated contributions over any benefits paid on his behalf.

Effective July 1, 1981, the System became non-contributory (or, for classes of employees who previously contributed more than 5%, contribution rates were reduced by 5%) for State employees and for teachers in higher education. Teachers in grades K-12 and political subdivisions remained contributory, except that political subdivisions were given the option of electing to become non-contributory.

For employees who moved from "contributory" to "non-contributory" on July 1, 1981, withdrawals in the event of termination have been calculated as though their personal contributions had continued, and retirement benefits have been calculated by loading each of the next 15 years' salaries by 3.6%. This provision, which otherwise would have expired on June 30, 1996, has been extended permanently effective July 1, 1998 by the Legislature for those members in the system at the onset of non-contributory retirement.

The following summaries give the main provisions of the Tennessee Consolidated Retirement System on which the valuation was based. Summaries are also given of the various superseded systems, whose provisions are applicable for certain members. Throughout these summaries, the symbol # means that the actual benefit (or minimum or maximum) is 105% of the indicated amount for State employees (including teachers) in these categories, and that participating political subdivisions may elect this improvement as an optional provision.

Note: In the following tables, minimum benefits are described as $96.00 per year or $103.92 per year for various classifications. These amounts apply to members with at least 10 years of creditable service. If a benefit is calculated for a member with less than 10 years of creditable service, minimum benefits of $84.00 per year and $91.92 per year, respectively, apply instead of the amounts shown in the tables.

TENNESSEE CONSOLIDATED RETIREMENT SYSTEM

	GROUP			
	I	II	III	IV
SERVICE RETIREMENT				
Full Benefit:				
Eligibility conditions (Age and years of creditable service)	Age 60 and vested, or 30 years	Age 60 and vested, or 55 with 25 years or 30 years of service*	Age 65 and vested, or age 55 with 24 years or 30 years	Age 55 with 24 years, or Age 60 with 8 years
Benefit percentages (% of AFC for each year of Creditable service):				
% up to SSIL	1.50%#	1.75%#	2.00%	2.50%
% over SSIL	1.75#	2.25#	2.50	2.50
Early Reduced Benefit:				
Eligibility conditions	N/A	55 with 10 years	Age 55 with 8 years	N/A
Benefit	Full benefit reduced by 4/10 of 1% for each month prior to eligibility for full benefit.			
25 Year Benefit:				
Eligibility Conditions	25 years	N/A	N/A	N/A
Benefit	Full benefit is reduced 4/10 of 1% for each of first 60 months prior to 30 years of service. Benefit so calculated is further reduced by actuarial factor if member's age at commencement of benefits is less than 55.			

*See note on next page.

#See explanation on page H-3.

TENNESSEE CONSOLIDATED RETIREMENT SYSTEM
(Continued)

	GROUP			
	I	II	III	IV
Vested Benefit:				
Eligibility conditions	5 years**	10 years	8 years	8 years
Benefit	Reduced benefit payable at age 55 or later Benefit further reduced by 15% for each year of service less than 10 years			
Maximum Benefit: (before reduction)	90%# of average final compensation	80%	75%	75%
Minimum Benefit:	$96.00# for each year of creditable service, but not in excess of 100% of average final compensation.			
ORDINARY DISABILITY RETIREMENT				
Eligibility conditions	5 years	5 years	8 years	8 years
Benefit percentages:*				
% up to SSIL	1.350%#	1.575%#	1.800%	2.250%
% over SSIL	1.575#	2.025#	2.250	2.250

* Benefit % for each year of creditable service. If service to date of disability retirement is less than 20 years, projected years of service to the full benefit date are added to creditable service, but not to bring total years of creditable service to more than 20 years, nor less than ten years of creditable service. Benefit changes to normal service benefit (including projected years of service) when the conditions for normal service retirement are met.

NOTE: During certain time restricted periods, certain Group II members could elect to become covered by a special provision whereby the eligibility condition for service retirement is age 55 (and vested) or 25 years of service. In order to elect this provision of the law, the Group II member must make additional contributions to the retirement system at the rate of 5% of salary.

**If membership date is prior to 7-1-79, 4 years.

TENNESSEE CONSOLIDATED RETIREMENT SYSTEM
(Continued)

	GROUP			
	I	II	III	IV
ORDINARY DISABILITY RETIREMENT (Continued)				
Maximum Benefit:	75%# of average final compensation			
Minimum Benefit: (no reduction)	$96.00# for each year of creditable service to date of disability retirement, but not in excess of 100% of final compensation.			
ACCIDENTAL DISABILITY RETIREMENT				
Eligibility condition	In performance of duty	In performance of duty	N/A	N/A
Benefit:				
To age 62 or receipt of Social Security Disability	50%# of average final compensation	50%# of average final compensation	N/A	N/A
After age 62 or receipt of Social Security Disability	33-1/3%# of average final compensation	33-1/3%# of average final compensation	N/A	N/A
For members joining on or after 7/1/97, benefit is determined in same manner as ordinary disability.				
INACTIVE DISABILITY				
Eligibility condition	5 years	5 years	8 years	8 years
Benefit:	Actuarial equivalent of age 55 benefit			
ORDINARY DEATH BENEFITS				
1. Eligibility condition	Eligible for early or service retirement benefit			
Benefit	Survivor benefit as if member had retired and elected joint and 100% survivor annuity			

TENNESSEE CONSOLIDATED RETIREMENT SYSTEM
(Continued)

	GROUP			
	I	II	III	IV
ORDINARY DEATH BENEFITS (Continued)				
2. Eligibility condition*	10 years	10 years	10 years	10 years
Benefit	To surviving spouse, as if member had retired and elected immediate joint and 100% survivor annuity (Option I)			
3. Eligibility condition	In service within 150 days and no other benefit			
Benefit	Lump sum equal to the member's account balance plus an equal amount payable from the employer fund.			
ACCIDENTAL DEATH BENEFITS				
Eligibility condition	Death in performance of duty			
Benefit	50% of average final compensation to eligible dependent(s). The aggregate total death benefit payable on account of a member who dies in the line of duty shall have a value of not less than $50,000. If the death benefit is payable to a single beneficiary, the guaranteed minimum value shall be paid in monthly installments calculated on a sixty-month basis. If no surviving spouse exist on the date of the member’s death and if the projected payments to be made to all the minor children do not exceed a minimum total value of $50,000 the projected excess shall be paid to the member’s estate for the benefit of all the member’s surviving children regardless of age.			
INACTIVE DEATH BENEFITS				
Eligibility condition*	10 years	10 years	10 years	10 years
Benefit	To surviving spouse as if member had retired and elected Option II (50%)			

* Optional to political subdivisions

TENNESSEE CONSOLIDATED RETIREMENT SYSTEM
(Continued)

	GROUP			
	I	II	III	IV
MEMBER CONTRIBUTION RATES				
Contributory				
% of compensation up to SSB	5.0%	5.5%	5.5%	N/A
% of compensation in excess of SSB	5.0%	5.5%	7.0%	N/A
Non-Contributory				
% of compensation up to SSB	0.0%	0.5%	0.5%	0.5%
% of compensation in excess of SSB	0.0%	0.5%	2.0%	2.0%

SUPERSEDED SYSTEMS
TENNESSEE TEACHERS' RETIREMENT SYSTEM

	PRIOR CLASS A	TRANSFERRED CLASS B	PRIOR CLASS B
<u>SERVICE RETIREMENT</u>			
<u>Full Benefit</u>:			
Eligibility conditions (Age and years of creditable service)	------------------------ Age 60 or 30 years ------------------------		
Benefit percentages (% of AFC for each year of creditable service):			
% up to SSB	1.125%[#]	1.875%[#]	1.875%[#]
% over SSB	1.875[#]	1.875[#]	1.875[#]
<u>Vested Benefit</u>:			
Eligibility conditions	10 years or 4 years at higher learning institute (only Class A)		
Benefit	Full benefit deferred to age 60		
<u>Minimum Benefit</u> (No reduction)	$96.00[#]	$103.92[#]	$103.92[#]
<u>DISABILITY RETIREMENT</u>			
Eligibility conditions	10 years	10 years	10 years
Benefit percentages:			
% up to SSB	1.0125%*[#]	1.6875%**[#]	1.6875%**[#]
% over SSB	1.6875[#]	1.6875[#]	1.6875[#]
<u>Minimum Benefit</u> (No reduction)	$96.00[#]	$103.92[#]	$103.92[#]

* If service to date of disability retirement is less than 20 years, projected years of service to the full benefit date are added to creditable service, but not to bring total years of creditable service to more than 20 years, nor less than 10 years.

** Total benefit package percentage based on years of service not to be less than 25%.[#]

SUPERSEDED SYSTEMS

TENNESSEE TEACHERS' RETIREMENT SYSTEM
(Continued)

	PRIOR CLASS A	TRANSFERRED CLASS B	PRIOR CLASS B
DEATH BENEFITS			
1. Eligibility condition	Eligible for early or service retirement		
Benefit	Joint and 100% survivor option as if member had retired and elected this option		
2. Eligibility condition	10 years	10 years	10 years
Benefit	To surviving spouse, as if member had retired and elected immediate joint and 100% survivor annuity (Option I)		
3. Eligibility condition	In service within 120 days and no other benefit		
Benefit	Lump sum equal to the member's account balance plus an equal amount payable from the employer fund		
INACTIVE DEATH BENEFITS			
Eligibility condition*	10 years	10 years	10 years
Benefit	To surviving spouse as if member had retired and elected Option II (50%)		
MEMBER CONTRIBUTION RATES			
Contributory			
% of compensation up to SSB	3.0%	5.0%	7.0%
% of compensation in excess of SSB	3.0%	5.0%	7.0%
Non-Contributory	0.0%	0.0%	2.0%

*Optional to political subdivisions

SUPERSEDED SYSTEMS

TENNESSEE STATE RETIREMENT SYSTEM

	GENERAL EMPLOYEES		
	PRIOR CLASS A	TRANSFERRED CLASS B	PRIOR CLASS B
SERVICE RETIREMENT			
Full Benefit:			
Eligibility conditions (Age and years of creditable service)	Age 65	Age 60 with 20 years or 30 years	Age 60 with 20 years or 30 years
Benefit percentages (% of AFC for each year of creditable service):			
% up to SSB	1.125%#	1.875%#	1.875%#
% over SSB	1.750#	1.875#	1.875#
Vested Benefit:			
Eligibility conditions	10 years	10 years	10 years
	Payable at age 55 or later		
Benefit	Full benefit reduced by 4/10 of 1% for each month prior to eligibility for full benefit		
Maximum Benefit:	75%# of average final compensation		
Minimum Benefit:			
(Per year of creditable service) No reduction	$96.00#	$103.92#	$103.92#
Death Benefits:			
1. Eligibility condition	Eligible for early or service retirement		
Benefit	Joint and 100% survivor option as if member had retired and elected this option.		
2. Eligibility condition*	10 years	10 years	10 years
Benefit	To surviving spouse, as if member had retired and elected immediate joint and 100% survivor annuity (Option I)		

* Optional to political subdivisions.

SUPERSEDED SYSTEMS

TENNESSEE STATE RETIREMENT SYSTEM
(Continued)

	GENERAL EMPLOYEES		
	PRIOR CLASS A	TRANSFERRED CLASS B	PRIOR CLASS B
3. Eligibility condition	In service within 120 days and no other benefit		
Benefit	Lump sum equal to the member's account balance plus an equal amount payable from the employer fund.		
INACTIVE DEATH BENEFITS			
Eligibility condition***	10 years	10 years	10 years
Benefit	To surviving spouse as if member had retired and elected Option II (50%)		
DISABILITY RETIREMENT			
Eligibility conditions	10 years	5 years	5 years
Benefit percentages:			
% up to SSB	1.0125%*#	1.6875%**#	1.6875%**#
% over SSB	1.5750#	1.6875#	1.6875#
Maximum Benefit	75% of average final compensation		
Minimum Benefit (No reduction)	$96.00#	$103.92#	$103.92#
MEMBER CONTRIBUTION RATES			
Contributory			
% of compensation up to SSB	3.0%	5.5%	7.0%
% of compensation in excess of SSB	5.0%	5.5%	7.0%
Non-Contributory	0.0%	0.0%	2.0%

* If service to date of disability retirement is less than 20 years, projected years of service to the full benefit date are added to creditable service, but not to bring total years of creditable service to more than 20 years.

** Total benefit percentage based on years of service not to be less than 25%.#

*** Optional to political subdivisions

SUPERSEDED SYSTEMS

TENNESSEE STATE RETIREMENT SYSTEM
(Continued)

	GAME AND FISH OFFICERS	STATE POLICEMEN	FIREMEN AND POLICEMEN
SERVICE RETIREMENT			
Full Benefit:			
Eligibility conditions (Age and years of creditable service)	Age 60 or 55 with 25 years, or 30 years	Age 50 or 25 years	Age 55 with 25 years, or 30 years
Benefit percentages (% of AFC for each year of creditable service)	2.125%#	2.250%#	2.250%#
Vested Benefit:			
Eligibility conditions	10 years	10 years	10 years
	Payable at age 55 or later for Class A Payable upon completion of 10 years for Class B		
Benefit	Full benefit reduced by 4/10 of 1% for each month prior to eligibility for full benefit		
Maximum Benefit	75%# of average final compensation		
Minimum Benefit (Per year of creditable service)	Class A - $96.00# Class B - $103.92#	N/A	Class A - $96.00# Class B - $103.92#
DISABILITY RETIREMENT			
Eligibility conditions	Class A - 10 years Class B - 5 years	5 years	Class A - 10 years Class B - 5 years
Benefit percentages	1.9125%*#	2.025%**#	2.025%*#
Maximum Benefit	75% of average final compensation		
Minimum Benefit (No projected service)	Class A - $96.00# Class B - $103.92#	N/A	Class A - $96.00# Class B - $103.92#

* For Class A, if service to date of disability retirement is less than 20 years, projected years of service to age 55 are added to creditable service, but not to bring total years of creditable service to more than 20 years. Class B does not get projected years.

** Total benefit percentage based on years of service (without projection) not to be less than 25%.#

SUPERSEDED SYSTEMS

TENNESSEE STATE RETIREMENT SYSTEM
(Continued)

	GAME AND FISH OFFICERS	STATE POLICEMEN	FIREMEN AND POLICEMEN
ACCIDENTAL DISABILITY			
Eligibility conditions	N/A	In performance of duty	N/A
Benefit	N/A	50% of AFC#	N/A
ORDINARY DEATH BENEFITS			
1. Eligibility conditions	In service within 120 days and no other benefit		
Benefit	Lump sum equal to the member's account balance plus an equal amount payable from the employer fund.		
2. Eligibility conditions*	10 years	10 years	10 years
Benefit	To surviving spouse, as if member had retired and elected immediate joint and 100% survivor annuity (Option I)		
3. Eligibility conditions	Eligible for early or service retirement		
Benefit	Joint and 100% survivor option as if member had retired and elected this option.		
INACTIVE DEATH BENEFITS			
Eligibility condition	10 years	10 years	10 years
Benefit	To surviving spouse as if member had retired and elected Option II (50%)		
DEATH IN PERFORMANCE OF DUTY	N/A	50% of AFC#	N/A
MEMBER CONTRIBUTION RATES			
% of compensation to SSB	5.0%	6.63%	Class A - 3.0% Class B - 7.0%
% of compensation in excess of SSB	5.0%	6.63%	Class A - 5.0% Class B - 7.0%

*Optional to political subdivisions.

SUPERSEDED SYSTEMS

	STATE JUDGES	ATTORNEYS GENERAL	COUNTY JUDGES
SERVICE RETIREMENT			
Full Benefit:			
Eligibility conditions (Age and years of service)	Age 65 or age 54 with 8 years	Age 54 with 10 years	Age 55 with 8 years
Benefit percentages (% of BB for each year of creditable service)	3.75%	3.75%	3.0%*
Vested Benefit:			
Eligibility conditions	Immediate	10 years	8 years
Benefit	Full benefit deferred to age 54 with 8 years or age 65	Full benefit deferred to age 54	Full benefit deferred to age 55
Maximum Benefit	75% of BB	75% of BB	75% of BB
DISABILITY RETIREMENT			
Eligibility conditions	10 years	10 years	8 years
Benefit	Full service benefit	Full service benefit	Full service benefit
Minimum Benefit	N/A	N/A	25% of AFC

BB (Benefit Base) definition:

(1) If member's benefit is subject to escalation, the BB is the salary the retired member would have received had he remained in office.
(2) If member's benefit is not subject to escalation, the BB is the salary at the time the member retired or the salary in effect May 1, 1975, whichever is greater.

* Minimum total rate of 75% of average final compensation after 24 years of creditable service.

SUPERSEDED SYSTEMS
(Continued)

	STATE JUDGES	ATTORNEYS GENERAL	COUNTY JUDGES
DEATH BENEFIT			
Eligibility conditions			
1. Eligible for service retirement	If elected, survivorship option as if member retired; otherwise 100% joint and survivor option to designated beneficiary	If elected, survivorship option as if member retired; otherwise 100% joint and survivor option to designated beneficiary	If elected, survivorship option as if member retired; otherwise 50% joint and survivor option to designated beneficiary
2. Eligibility conditions	10 years	10 years	10 years
Benefit	To surviving spouse, as if member had retired and elected immediate joint and 100% survivor annuity (Option I)		
3. 10 years	N/A	Optional benefit paid at age 54 if elected	N/A
4. Age 54 with 10 years or 18 years	N/A	50% joint and survivor option as if member had retired	N/A
5. Eligibility condition	In service within 120 days and no other benefit		
Benefit	Lump sum equal to the member's account balance plus an equal amount payable from the employer fund.		
INACTIVE DEATH BENEFITS			
Eligibility condition	10 years	10 years	10 years
Benefit	To surviving spouse as if member had retired and elected Option II (50%)		
MEMBER CONTRIBUTION RATES	3.0%	8.0% contributory 3.0% non-contributory	8.0% contributory 3.0% non-contributory

SUPERSEDED SYSTEMS
(Continued)

	COUNTY OFFICIALS	PUBLIC SERVICE COMMISSIONERS
SERVICE RETIREMENT		
Full Benefit:		
Eligibility conditions (Age and years of service)	Age 55 with 12 years	Age 65 or age 54 with 12 years
Benefit percentages (% of BB or AFC for each year of creditable service)	2.5% of AFC	3.75% of salary at retirement
Maximum Benefit	75% of AFC	75% of salary at retirement
Vested Benefit:		
Eligibility conditions	12 years	Immediate
Benefit	Full benefit deferred to age 55	Deferred to age 65 or to age 54 with 12 years
DISABILITY RETIREMENT		
Eligibility conditions	N/A	10 years
Benefit	N/A	Full benefit
DEATH BENEFITS		
1. Eligibility conditions	12 years	Eligible for full benefit
Benefit	Full benefit payable to beneficiary for 10 years; if eligible for service retirement, beneficiary may elect joint and 100% survivor option	If elected, survivorship option as if member retired; otherwise 100% joint and survivor option to designated beneficiary
2. Eligibility conditions	10 years	10 years
Benefit	To surviving spouse, as if member had retired and elected immediate joint and 100% survivor annuity (Option I)	
3. Eligibility condition	In service within 120 days and no other benefit	
Benefit	Lump sum equal to the member's account balance plus an equal amount payable from the employer fund.	

SUPERSEDED SYSTEMS
(Continued)

	COUNTY OFFICIALS	PUBLIC SERVICE COMMISSIONERS
INACTIVE DEATH BENEFITS		
1. Eligibility conditions	10 years	10 years
Benefit	To surviving spouse as if member had retired and elected Option II (50%)	
2. Eligibility conditions	Out of service more than 120 days	
Benefit	Lump sum payment equal to member's account balance	
MEMBER CONTRIBUTION RATES	8.0%	8.0%

I. APPENDIX

TABLE I-1

CONTRIBUTORY TEACHERS

DISTRIBUTION OF ACTIVE PARTICIPANTS' EARNINGS BY AGE

Age		Earnings	
Group	Number	Total	Average
1-20	5	$166,720	$33,344
21-25	3,080	101,176,604	32,850
26-30	8,495	299,620,891	35,270
31-35	9,273	357,880,465	38,594
36-40	7,508	310,153,740	41,310
41-45	7,645	335,827,142	43,928
46-50	9,865	462,497,466	46,883
51-55	11,499	568,516,873	49,441
56-60	8,232	420,620,679	51,096
61-65	2,284	118,937,816	52,074
66-70	370	19,325,895	52,232
71-75	82	4,340,755	52,936
76-80	22	1,045,664	47,530
81-85	3	136,947	45,649
86-90	1	48,032	48,032
Total	68,364	$3,000,295,689	$43,887

TABLE I-2

STATE GENERAL EMPLOYEES
(INCLUDES NON-CONTRIBUTORY TEACHERS AND SEPARATELY-FUNDED SYSTEMS)

DISTRIBUTION OF ACTIVE PARTICIPANTS' EARNINGS BY AGE

Age Group	Number	Earnings Total	Earnings Average
1-20	5	$5,114,809	$17,637
21-25	2,636	59,129,525	22,432
26-30	4,919	132,010,252	26,837
31-35	5,681	168,613,369	29,680
36-40	6,293	199,269,917	31,665
41-45	8,488	283,554,378	33,407
46-50	10,340	370,558,866	35,837
51-55	10,423	403,669,486	38,729
56-60	8,490	338,342,603	39,852
61-65	3,737	158,996,784	42,547
66-70	1,274	53,828,536	42,252
71-75	354	13,962,231	39,441
76-80	120	4,656,039	38,800
81-85	30	1,331,238	44,375
86-90	0	0	0
Total	63,075	$2,193,038,033	$34,769

TABLE I-3

POLITICAL SUBDIVISION GENERAL EMPLOYEES

DISTRIBUTION OF ACTIVE PARTICIPANTS' EARNINGS BY AGE

Age		Earnings	
Group	Number	Total	Average
1-20	5	$5,806,250	$18,259
21-25	2,920	65,636,207	22,478
26-30	5,296	133,505,760	25,209
31-35	7,795	203,282,113	26,079
36-40	9,213	232,857,350	25,275
41-45	11,161	281,449,975	25,217
46-50	11,473	299,259,738	26,084
51-55	10,341	277,214,273	26,807
56-60	8,385	220,894,634	26,344
61-65	4,521	111,940,769	24,760
66-70	1,705	37,387,131	21,928
71-75	680	13,271,561	19,517
76-80	188	3,437,951	18,287
81-85	52	954,207	18,350
86-90	0	0	0
Total	74,048	$1,886,897,919	$25,482

TABLE I-4

UNIVERSITY OF TENNESSEE (TIAA)

DISTRIBUTION OF ACTIVE PARTICIPANTS' EARNINGS BY AGE

Age Group	Number	Earnings Total	Earnings Average
1-20	5	$0	$0
21-25	0	0	0
26-30	0	0	0
31-35	0	0	0
36-40	0	0	0
41-45	0	0	0
46-50	0	0	0
51-55	24	2,264,761	94,365
56-60	131	12,058,125	92,046
61-65	214	20,088,061	93,869
66-70	87	8,042,141	92,438
71-75	20	2,539,111	126,955
76-80	11	898,071	81,642
81-85	1	98,047	98,047
86-90	0	0	0
Total	488	$45,988,317	$94,238

TABLE I-5

GROUP II

DISTRIBUTION OF ACTIVE PARTICIPANTS' EARNINGS BY AGE

Age Group	Number	Earnings Total	Earnings Average
1-20	5	$0	$0
21-25	0	0	0
26-30	0	0	0
31-35	0	0	0
36-40	0	0	0
41-45	0	0	0
46-50	4	243,707	60,926
51-55	75	4,455,965	59,412
56-60	50	2,798,561	55,971
61-65	9	555,219	61,691
66-70	2	50,389	25,194
71-75	0	0	0
76-80	0	0	0
81-85	0	0	0
86-90	0	0	0
Total	140	$8,103,841	$57,884

TABLE I-6

GROUP III

DISTRIBUTION OF ACTIVE PARTICIPANTS' EARNINGS BY AGE

Age Group	Number	Earnings Total	Earnings Average
1-20	5	$0	$0
21-25	0	0	0
26-30	0	0	0
31-35	0	0	0
36-40	0	0	0
41-45	0	0	0
46-50	0	0	0
51-55	1	40,453	40,453
56-60	6	480,033	80,005
61-65	13	1,049,739	80,749
66-70	6	438,982	73,163
71-75	7	489,464	69,923
76-80	1	81,815	81,815
81-85	1	51,969	51,969
86-90	0	0	0
Total	35	$2,632,455	$75,213

TABLE I-7

TOTAL

DISTRIBUTION OF ACTIVE PARTICIPANTS' EARNINGS BY AGE

Age Group	Number	Earnings Total	Earnings Average
1-20	5	$11,087,779	$18,088
21-25	8,636	225,942,336	26,163
26-30	18,710	565,136,903	30,205
31-35	22,749	729,775,947	32,079
36-40	23,014	742,281,007	32,253
41-45	27,294	900,831,495	33,005
46-50	31,682	1,132,559,777	35,748
51-55	32,363	1,256,161,811	38,815
56-60	25,294	995,194,635	39,345
61-65	10,778	411,568,388	38,186
66-70	3,444	119,073,074	34,574
71-75	1,143	34,603,122	30,274
76-80	342	10,119,540	29,589
81-85	87	2,572,408	29,568
86-90	1	48,032	0
Total	206,150	$7,136,956,254	$34,620

TABLE II-1

CONTRIBUTORY TEACHERS

DISTRIBUTION OF ACTIVE PARTICIPANTS' EARNINGS
BY LENGTH OF SERVICE

Service Group	Number	Earnings Total	Earnings Average
0	4,456	$157,599,338	$35,368
1	3,878	134,965,735	34,803
2	3,307	118,499,105	35,833
3	3,441	127,618,568	37,088
4	3,330	125,204,075	37,599
0-4	18,412	663,886,821	36,057
5-9	14,094	567,692,415	40,279
10-14	10,019	447,622,500	44,677
15-19	7,575	369,612,830	48,794
20-24	5,642	284,503,848	50,426
25-29	6,336	328,962,945	51,920
30-34	4,557	242,250,912	53,160
35-39	1,454	80,315,916	55,238
40-44	220	12,491,803	56,781
45-49	55	2,955,699	53,740
Total	68,364	$3,000,295,689	$43,887

TABLE II-2

STATE GENERAL EMPLOYEES
(INCLUDES NON-CONTRIBUTORY TEACHERS AND SEPARATELY-FUNDED SYSTEMS)

DISTRIBUTION OF ACTIVE PARTICIPANTS' EARNINGS BY LENGTH OF SERVICE

Service Group	Number	Earnings Total	Earnings Average
0	5,155	$130,145,493	$25,246
1	4,164	115,030,995	27,625
2	3,545	102,313,643	28,861
3	3,132	88,712,711	28,325
4	3,168	89,597,096	28,282
0-4	19,164	525,799,938	27,437
5-9	11,315	348,106,668	30,765
10-14	7,797	270,617,486	34,708
15-19	8,319	310,829,662	37,364
20-24	7,322	298,721,374	40,798
25-29	5,233	236,702,390	45,233
30-34	2,708	136,826,228	50,527
35-39	896	48,644,868	54,291
40-44	245	12,748,643	52,035
45-49	76	4,040,776	53,168
Total	63,075	$2,193,038,033	$34,769

TABLE II-3

POLITICAL SUBDIVISION GENERAL EMPLOYEES

DISTRIBUTION OF ACTIVE PARTICIPANTS' EARNINGS BY LENGTH OF SERVICE

Service Group	Number	Earnings Total	Earnings Average
0	7,408	$145,922,090	$19,698
1	5,773	118,274,453	20,488
2	5,263	112,984,668	21,468
3	4,767	108,104,424	22,678
4	4,789	110,906,132	23,159
0-4	28,000	596,191,767	21,293
5-9	19,482	485,462,654	24,919
10-14	11,249	316,836,559	28,166
15-19	7,850	233,781,378	29,781
20-24	3,787	123,238,297	32,542
25-29	2,736	95,282,241	34,825
30-34	806	29,684,580	36,830
35-39	120	5,361,210	44,677
40-44	13	806,796	62,061
45-49	5	252,437	50,487
Total	74,048	$1,886,897,919	$25,482

TABLE II-4

UNIVERSITY OF TENNESSEE (TIAA)

DISTRIBUTION OF ACTIVE PARTICIPANTS' EARNINGS BY LENGTH OF SERVICE

Service Group	Number	Earnings Total	Earnings Average
0	0	$0	$0
1	0	0	0
2	0	0	0
3	0	0	0
4	0	0	0
0-4	0	0	0
5-9	3	69,260	23,086
10-14	8	560,670	70,083
15-19	5	440,694	88,138
20-24	12	1,143,869	95,322
25-29	120	11,824,132	98,534
30-34	200	18,879,739	94,398
35-39	118	10,981,496	93,063
40-44	15	1,410,458	94,030
45-49	7	677,999	96,857
Total	488	$45,988,317	$94,238

TABLE II-5

GROUP II

DISTRIBUTION OF ACTIVE PARTICIPANTS' EARNINGS BY LENGTH OF SERVICE

Service Group	Number	Earnings Total	Earnings Average
0	0	$0	$0
1	0	0	0
2	0	0	0
3	0	0	0
4	0	0	0
0-4	0	0	0
5-9	0	0	0
10-14	0	0	0
15-19	0	0	0
20-24	0	0	0
25-29	25	1,479,206	59,168
30-34	106	6,076,782	57,328
35-39	9	547,853	60,872
40-44	0	0	0
45-49	0	0	0
Total	140	$8,103,841	$57,884

TABLE II-6

GROUP III

DISTRIBUTION OF ACTIVE PARTICIPANTS' EARNINGS BY LENGTH OF SERVICE

Service Group	Number	Earnings Total	Earnings Average
0	0	$0	$0
1	0	0	0
2	0	0	0
3	0	0	0
4	0	0	0
0-4	0	0	0
5-9	0	0	0
10-14	0	0	0
15-19	0	0	0
20-24	0	0	0
25-29	6	487,144	81,190
30-34	25	1,924,435	76,977
35-39	3	151,907	50,635
40-44	1	68,969	68,969
45-49	0	0	0
Total	35	$2,632,455	$75,213

TABLE II-7

TOTAL

DISTRIBUTION OF ACTIVE PARTICIPANTS' EARNINGS BY LENGTH OF SERVICE

Service Group	Number	Earnings Total	Earnings Average
0	17,019	$433,666,921	$25,481
1	13,815	368,271,183	26,657
2	12,115	333,797,416	27,552
3	11,340	324,435,703	28,610
4	11,287	325,707,303	28,857
0-4	65,576	1,785,878,526	27,234
5-9	44,894	1,401,330,997	31,214
10-14	29,073	1,035,637,215	35,622
15-19	23,749	914,664,564	38,514
20-24	16,763	707,607,388	42,212
25-29	14,456	674,738,058	46,675
30-34	8,402	435,642,676	51,850
35-39	2,600	146,003,250	56,155
40-44	494	27,526,669	55,722
45-49	143	7,926,911	55,433
Total	206,150	$7,136,956,254	$34,620

TABLE III

DISTRIBUTION OF CURRENT BENEFITS BY AGE GROUPS

RETIRED LIVES

Age Group	Number	Annual Benefit Total	Annual Benefit Average
1-20	0	$0	$0
21-25	1	15,349	15,349
26-30	0	0	0
31-35	18	98,185	5,455
36-40	60	384,346	6,406
41-45	283	1,714,096	6,057
46-50	673	5,672,861	8,429
51-55	3,390	54,432,532	16,057
56-60	9,867	157,315,206	15,944
61-65	16,008	212,982,985	13,305
66-70	17,125	210,037,384	12,265
71-75	14,928	176,251,359	11,807
76-80	11,597	125,084,817	10,786
81-85	8,108	77,036,890	9,501
86-90	7,835	61,797,338	7,887
Total	89,893	$1,082,823,348	$12,046

TABLE IV

DISTRIBUTION OF CURRENT BENEFITS BY YEARS SINCE RETIREMENT

RETIRED LIVES

Years Since Retirement	Number	Annual Benefit Total	Annual Benefit Average
0	4,821	$68,824,123	$14,276
1	5,893	83,228,569	14,123
2	5,735	77,340,597	13,486
3	5,206	70,162,012	13,477
4	4,861	64,977,403	13,367
0- 4	26,516	364,532,704	13,748
5-9	22,594	292,790,531	12,959
10-14	15,820	190,377,340	12,034
15-19	11,031	118,649,961	10,756
20-24	7,675	68,463,411	8,920
25-29	4,330	32,596,877	7,528
30-34	1,661	13,474,796	8,112
35-39	220	1,593,695	7,244
40-44	26	225,469	8,672
45-49	20	118,564	5,928
Total	89,893	$1,082,823,348	$12,046

TABLE V

BRINGING FORWARD AMOUNTS TO BE AMORTIZED

	Contributory Teachers	Consolidated State	State Judges (I, III and IV)	Attorneys General (I and III)	County Judges and Officials (All)	St. Judges & Att. Gen. (Superseded)
2003 Unfunded Supplemental Liability	0	0	0	0	1,183,478	51,309,731
Contribution	0	0	0	0	142,323	6,170,429
Interest	0	0	0	0	78,087	3,385,448
2004 Unfunded Supplemental Liability	0	0	0	0	1,119,242	48,524,750
Contribution	0	0	0	0	142,323	6,170,429
Interest	0	0	0	0	73,269	3,176,574
2005 Unfunded Supplemental Liability	0	0	0	0	1,050,188	45,530,895
10 Year Amortization Payment	na	na	na	na	142,323	6,170,428
Eligible Payroll	3,000,296,994	2,183,857,233	20,768,061	38,734,967	1,668,831	662,758
Contribution as % of Pay	na	na	na	na	8.528%	931.023%

TABLE V (Continued)
REESTABLISHMENT OF UNFUNDED ACCRUED LIABILITY
July 1, 2005

	Contributory Teachers	Consolidated State	State Judges (Groups I, III and IV)	Attorneys General (Groups I and III)	County Judges and Officials	State Judges and Attorneys General (Superseded)
Entry Age Past Service Liability	na	na	na	na	111,175,214	134,016,302
Valuation Assets	na	na	na	na	134,757,016	94,209,692
Unfunded Accrued Liability	na	na	na	na	0	39,806,610
Amortization Contribution	na	na	na	na	0	5,394,663
Eligible Payroll	3,000,296,994	2,183,857,233	20,768,061	38,734,967	1,668,831	662,758
Contribution as % of Pay	na	na	na	na	0.000%	813.972%

TABLE VI
CALCULATION OF CONTRIBUTION RATES
PRIOR ASSUMPTIONS

	Contributory Teachers	Consolidated State	State Judges (Groups I, III, and IV)	Attorneys General (Groups I and III)	County Judges and Officials (All)	State Judges and Attorneys General (Superseded)
1. Present Value of Benefits	18,049,362,218	11,056,543,405	108,345,288	134,396,989	116,211,320	140,366,870
2. Current Members' Fund	2,371,839,897	762,927,758	10,552,347	16,378,524	3,598,408	2,063,200
3. Current State Accumulation Fund	12,092,738,591	7,997,015,593	76,484,920	70,256,463	131,158,609	92,146,492
4. Present Value of Future Employee Contributions	1,407,973,922	69,425	1,052,519	70,283	142,538	19,160
5. Unfunded Accrued Liability	0	0	0	0	0	45,891,589
6. Present Value of Future Normal Costs, ((1)-(2)-(3)-(4)-(5))	2,176,809,808	2,296,530,629	20,255,502	47,691,719	(18,688,235)	246,429
7. Present Value of Future Salaries	28,181,410,815	17,526,114,774	117,101,570	347,402,738	2,553,336	638,657
8. Normal/Aggregate Cost Percentage ((6)/(7))	7.724%	13.103%	17.297%	13.728%	0.000%	5.039%
9. Unfunded Accrued Liability Percentage (Table V)	0.000%	0.000%	0.000%	0.000%	0.000%	938.398%
10-Year Amortization						
10. Total Contribution Rate ((8)+(9)) x 1.0375+0.12%						
10-Year Amortization	N/A	N/A	N/A	N/A	N/A	978.936%
Aggregate	8.134%	13.715%	18.066%	14.363%	0.000%	7495.253%

TABLE VI (Continued)
CALCULATION OF CONTRIBUTION RATES
REVISED ASSUMPTIONS

	Contributory Teachers	Consolidated State	State Judges (Groups I, III, and IV)	Attorneys General (Groups I and III)	County Judges and Officials (All)	State Judges and Attorneys General (Superseded)
1. Present Value of Benefits	17,541,459,698	11,223,928,048	110,865,253	138,415,822	111,722,999	134,288,261
2. Current Members' Fund	2,371,839,897	762,927,758	10,552,347	16,378,524	3,598,408	2,063,200
3. Current State Accumulation Fund	12,092,738,591	7,997,015,593	76,484,920	70,256,463	131,158,608	92,146,492
4. Present Value of Future Employee Contributions	1,426,609,960	68,772	1,129,000	75,679	185,164	21,831
5. Unfunded Accrued Liability	0	0	0	0	0	39,806,610
6. Present Value of Future Normal Costs, ((1)-(2)-(3)-(4)-(5))	1,650,271,250	2,463,915,925	22,698,986	51,705,156	(23,219,181)	250,128
7. Present Value of Future Salaries	28,559,050,525	19,004,971,483	124,787,932	376,665,391	3,292,468	727,712
8. Normal/Aggregate Cost Percentage ((6)/(7))	5.778%	12.965%	18.190%	13.727%	0.000%	5.115%
9. Unfunded Accrued Liability Percentage (Table V)	0.000%	0.000%	0.000%	0.000%	0.000%	813.972%
10-Year Amortization						
10. Total Contribution Rate ((8)+(9)) x 1.0375+0.13%						
10-Year Amortization	N/A	N/A	N/A	N/A	N/A	849.932%
Aggregate	6.125%	13.581%	19.002%	14.372%	0.000%	5711.025%

TABLE VII

SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

PRIOR ASSUMPTIONS

The actuarial assumptions and methods set forth below have been selected by the actuary based on results of an actuarial experience study covering the period from July 1, 1996 through June 30, 2000 and expectations regarding future events and economic conditions.

The assumptions and methods have been adopted as July 1, 2001 unless otherwise noted.

Actuarial Funding Method:

Frozen Initial Liability. Unfunded accrued liabilities are being funded over the 40-year period commencing in 1975. Through reestablishment, unfunded liabilities have been eliminated for all groups except State Judges and Attorneys General (Superseded). The Aggregate actuarial funding method is used for groups for which no unfunded accrued liability exists.

Asset Valuation Method:

Five-year moving market value average. Earnings in excess of or below expected investment returns are recognized over a five year period. Investment gains and losses are applied to offset accumulated investment gains or losses prior to determining the amount of earnings to be phased in. (Effective: July, 1999)

Interest Rate:

7.5% per annum, compounded annually

Salary Increases:

Salary increase rates vary by age. Sample rates are shown below.

Age	Rate
20	9.49%
30	7.25
40	5.86
50	4.79
60	4.30
65	4.22

Increase in Social Security Wage Base:

3.5% annual increase

TABLE VII (Continued)

SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

PRIOR ASSUMPTIONS

Cost of Living Adjustment:

3.0% annual increase in monthly retirement benefits

Inflation:

3.0% annual rate of inflation is assumed in establishing economic assumptions

Marital Status:

(a) Percent married --
Eligible for service retirement – 80%
Ineligible for service retirement – 75%

(b) Age difference – males are assumed to be four years older than spouse

Post Retirement Mortality:

	Annual Rate of Mortality After					
	Service Retirement				Disability Retirement	
	Teachers and Group III		Others			
Age	Male	Female	Male	Female	Male	Female
40	0.1%	0.1%	0.2%	0.1%	2.3%	2.3%
50	0.3	0.2	0.4	0.2	2.6	2.6
55	0.5	0.3	0.7	0.3	2.8	2.8
60	0.7	0.5	1.2	0.6	3.3	3.3
65	1.2	0.7	2.1	1.1	3.9	3.9
70	2.1	1.3	3.2	1.7	4.9	4.9
75	3.5	2.3	4.8	2.6	6.3	6.3
80	5.8	4.1	7.5	4.5	8.7	8.7
85	8.9	7.0	10.9	8.0	12.7	12.7
90	12.9	12.1	16.2	14.1	19.4	19.4
95	18.3	19.5	23.9	22.2	31.3	31.3

Separations from Service:

Representative values of the assumed annual rates of death, disability, withdrawal and service retirement for the various membership groups are shown on the following pages.

TABLE VII (Continued)

SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

PRIOR ASSUMPTIONS

GROUP I

TEACHERS

MALE

Age	Mortality	Disability	Annual Rate of Withdrawal		
			First Year	Second Year	Later
20	0.02%	0.02%	15.0%	12.0%	9.9%
25	0.02	0.02	15.0	12.0	8.5
30	0.03	0.03	15.0	12.0	5.6
35	0.04	0.05	15.0	12.0	3.1
40	0.06	0.09	15.0	12.0	1.5
45	0.11	0.13	15.0	12.0	0.9
50	0.20	0.17	15.0	12.0	2.0
55	0.31	0.21	15.0	12.0	4.3
60	0.47	--	15.0	12.0	6.5
65	0.80	--	--	--	6.5

* 10.0% is added to service retirement rate at age when employee is first eligible for unreduced benefit.

TABLE VII (Continued)

SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

PRIOR ASSUMPTIONS

GROUP I

TEACHERS

FEMALE

Age	Mortality	Disability	Annual Rate of Withdrawal		
			First Year	Second Year	Later
20	0.01%	0.02%	15.0%	12.0%	10.7%
25	0.02	0.02	15.0	12.0	9.9
30	0.02	0.03	15.0	12.0	8.1
35	0.03	0.05	15.0	12.0	4.3
40	0.04	0.09	15.0	12.0	1.8
45	0.06	0.13	15.0	12.0	1.1
50	0.10	0.17	15.0	12.0	1.8
55	0.15	0.21	15.0	12.0	3.7
60	0.25	--	15.0	12.0	5.7
65	0.42	--	--	--	5.7

* 10.0% is added to service retirement rate at age when employee is first eligible for unreduced benefit.

TABLE VII (Continued)

SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

PRIOR ASSUMPTIONS

GROUP I

GENERAL EMPLOYEES

MALE

Age	Mortality	Disability		Annual Rate of Withdrawal					
				First Year		Second Year		Later**	
		State	Polisubs	State	Polisubs	State	Polisubs	State	Polisubs
20	0.05%	0.04%	0.04%	35.5%	32.3%	27.2%	24.8%	20.4%	20.6%
25	0.07	0.04	0.04	31.4	28.5	24.8	22.5	16.7	13.2
30	0.09	0.05	0.05	27.2	24.8	23.1	21.0	10.6	8.7
35	0.09	0.08	0.09	24.8	22.5	19.8	18.0	6.2	7.0
40	0.12	0.16	0.14	23.1	21.0	16.7	15.2	4.1	5.4
45	0.17	0.24	0.33	19.0	17.3	14.0	12.8	2.9	4.6
50	0.28	0.35	0.53	16.5	15.0	14.0	12.8	2.6	4.4
55	0.48	0.35	0.75	16.5	15.0	14.0	12.8	2.9	4.5
60	0.86	--	--	16.5	15.0	14.0	12.8	3.3	2.8
65	1.56	--	--	--	--	--	--	--	--

* 10.0% is added to service retirement rate at age when employee is first eligible for unreduced benefit.

** Effective July 1, 2003

TABLE VII (Continued)

SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

PRIOR ASSUMPTIONS

GROUP I

GENERAL EMPLOYEES

FEMALE

Age	Mortality	Disability		Annual Rate of Withdrawal					
				First Year		Second Year		Later**	
		State	Polisubs	State	Polisubs	State	Polisubs	State	Polisubs
20	0.03	0.04%	0.04%	35.5%	32.3%	27.2%	24.8%	20.4%	24.8%
25	0.03	0.04	0.04	31.4	28.5	24.8	22.5	16.7	17.6
30	0.04	0.05	0.04	27.2	24.8	23.1	21.0	10.6	11.6
35	0.05	0.07	0.06	24.8	22.5	19.8	18.0	6.2	8.5
40	0.08	0.17	0.08	23.1	21.0	16.7	15.2	4.1	7.3
45	0.10	0.28	0.22	19.0	17.3	14.0	12.8	2.9	5.9
50	0.15	0.37	0.36	16.5	15.0	14.0	12.8	2.6	5.3
55	0.25	0.45	0.45	16.5	15.0	14.0	12.8	2.9	5.1
60	0.48	--	--	16.5	15.0	14.0	12.8	3.3	3.3
65	0.93	--	--	--	--	--	--	--	--

* 10.0% is added to service retirement rate at age when employee is first eligible for unreduced benefit.

** Effective July 1, 2003

TABLE VII (Continued)

SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

PRIOR ASSUMPTIONS

SERVICE RETIREMENT RATES

The following rates are applied at each age at which a member is eligible for an unreduced service retirement benefit.

Age	Teachers	State	Polisubs	Group II	Group III
50	7.0%	5.0%	6.0%	10.0%	--
51	8.0	5.0	6.0	10.0	10.0%
52	8.0	6.0	7.0	15.0	10.0
53	10.0	7.0	7.0	15.0	10.0
54	10.0	7.0	7.0	20.0	10.0
55	10.0	7.0	7.0	20.0	12.0
56	13.0	7.0	7.0	20.0	12.0
57	16.0	8.0	10.0	20.0	12.0
58	16.0	9.0	12.0	25.0	12.0
59	16.0	10.0	12.0	25.0	12.0
60	15.0	9.0	10.0	30.0	12.0
61	22.0	12.0	17.0	30.0	12.0
62	26.0	23.0	26.0	45.0	25.0
63	22.0	15.0	17.0	35.0	12.0
64	31.0	18.0	19.0	35.0	12.0
65	43.0	34.0	29.0	40.0	25.0
66	36.0	21.0	21.0	40.0	25.0
67	32.0	21.0	16.0	40.0	25.0
68	32.0	21.0	16.0	100.0	25.0
69	32.0	21.0	17.0	100.0	25.0
70	100.0	21.0	20.0	100.0	25.0
71	100.0	21.0	20.0	100.0	100.0
72	100.0	21.0	20.0	100.0	100.0
73	100.0	21.0	20.0	100.0	100.0
74	100.0	21.0	20.0	100.0	100.0
75	100.0	100.0	100.0	100.0	100.0

Additional increments for retirees who have fifteen or more years of service at retirement on or after age 60

	Teachers	State	Polisubs	Group II	Group III
	10.0%	5.0%	5.0%	na	na

Additional increments for retirees in the year in which they are first eligible for unreduced retirement prior to age 60

	Teachers	State	Polisubs	Group II	Group III
	10.0%	10.0%	10.0%	15.0%	na

TABLE VII (Continued)

SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

PRIOR ASSUMPTIONS

GROUP II

Age	Annual Rate of Disability	Annual Rate of Withdrawal
20	0.07%	5.8%
25	0.12	4.2
30	0.22	3.0
35	0.38	2.0
40	0.48	1.2
45	0.59	0.7
50	0.99	0.2
55	1.38	--

* 15.0% is added to service retirement rate at age when employee is first eligible for unreduced benefit if prior to age 60.

GROUP III

Age	Annual Rate of Disability
20	0.02%
25	0.02
30	0.03
35	0.05
40	0.09
45	0.13
50	0.17
55	0.21
60	--
65	--

TABLE VIII

SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

REVISED ASSUMPTIONS

The actuarial assumptions and methods set forth below have been selected by the actuary based on results of an actuarial experience study covering the period from July 1, 2000 through June 30, 2004 and expectations regarding future events and economic conditions.

The assumptions and methods have been adopted as July 1, 2005 unless otherwise noted.

Actuarial Funding Method:

Frozen Initial Liability. Unfunded accrued liabilities are being funded over the 40-year period commencing in 1975. Through reestablishment, unfunded liabilities have been eliminated for all groups except State Judges and Attorneys General (Superseded). The Aggregate actuarial funding method is used for groups for which no unfunded accrued liability exists.

Asset Valuation Method:

Five-year moving market value average. Earnings in excess of or below expected investment returns are recognized over a five year period. Investment gains and losses are applied to offset accumulated investment gains or losses prior to determining the amount of earnings to be phased in. (Effective: July, 1999)

Interest Rate:

7.5% per annum, compounded annually

Salary Increases:

Salary increase rates vary by age. Sample rates are shown below.

Age	Rate
20	9.49%
30	7.25
40	5.86
50	4.79
60	4.30
65	4.22

Increase in Social Security Wage Base:

3.5% annual increase

TABLE VIII (Continued)

SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

REVISED ASSUMPTIONS

Cost of Living Adjustment:

3.0% annual increase in monthly retirement benefits

Inflation:

3.0% annual rate of inflation is assumed in establishing economic assumptions

Marital Status:

(a) Percent married --
Eligible for service retirement – 80%
Ineligible for service retirement – 75%

(b) Age difference – males are assumed to be four years older than spouse

Post Retirement Mortality:

	Annual Rate of Mortality After					
	Service Retirement				Disability Retirement	
	Teachers and Group III		Others			
Age	Male	Female	Male	Female	Male	Female
40	0.1%	0.1%	0.2%	0.1%	2.2%	2.2%
50	0.3	0.2	0.4	0.2	2.7	2.7
55	0.4	0.3	0.7	0.3	3.4	3.4
60	0.6	0.5	1.1	0.7	3.9	3.9
65	1.0	0.8	1.7	1.0	4.5	4.5
70	1.9	1.3	2.6	1.5	5.3	5.3
75	3.5	2.3	4.3	2.6	6.6	6.6
80	6.1	4.3	7.3	4.4	8.7	8.7
85	10.3	7.7	10.9	7.6	12.3	12.3
90	18.2	13.7	16.5	14.2	18.0	18.0
95	25.9	19.9	24.3	22.3	26.7	26.7

Separations from Service:

Representative values of the assumed annual rates of death, disability, withdrawal and service retirement for the various membership groups are shown on the following pages.

TABLE VIII (Continued)

SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

REVISED ASSUMPTIONS

GROUP I

TEACHERS

MALE

Age	Mortality	Disability	Annual Rate of Withdrawal		
			First Year	Second Year	Later
20	0.03%	0.01%	18.0%	13.5%	9.7%
25	0.04	0.01	18.0	13.5	8.4
30	0.05	0.01	18.0	13.5	6.2
35	0.05	0.02	18.0	13.5	3.9
40	0.07	0.08	18.0	13.5	2.2
45	0.10	0.14	18.0	13.5	1.4
50	0.17	0.20	18.0	13.5	1.8
55	0.29	0.20	18.0	13.5	3.4
60	0.51	--	18.0	13.5	5.0
65	0.94	--	--	--	--

* 12.5% is added to service retirement rate at age when employee is first eligible for unreduced benefit.

TABLE VIII (Continued)

SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

REVISED ASSUMPTIONS

GROUP I

TEACHERS

FEMALE

Age	Mortality	Disability	Annual Rate of Withdrawal		
			First Year	Second Year	Later
20	0.02%	0.01%	18.0%	13.5%	10.5%
25	0.02	0.01	18.0	13.5	9.9
30	0.02	0.01	18.0	13.5	7.7
35	0.03	0.02	18.0	13.5	5.1
40	0.05	0.08	18.0	13.5	2.7
45	0.06	0.14	18.0	13.5	1.3
50	0.09	0.20	18.0	13.5	1.5
55	0.15	0.20	18.0	13.5	3.7
60	0.29	--	18.0	13.5	5.0
65	0.56	--	--	--	--

* 12.5% is added to service retirement rate at age when employee is first eligible for unreduced benefit.

TABLE VIII (Continued)

SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

REVISED ASSUMPTIONS

GROUP I

GENERAL EMPLOYEES

MALE

Age	Mortality	Disability		Annual Rate of Withdrawal					
				First Year		Second Year		Later	
		State	Polisubs	State	Polisubs	State	Polisubs	State	Polisubs
20	0.04%	0.08%	0.04%	32.6%	25.6%	27.2%	21.6%	17.7%	13.6%
25	0.05	0.08	0.04	26.2	22.6	23.3	18.5	14.0	10.1
30	0.06	0.09	0.04	24.3	21.4	20.0	17.3	9.1	7.0
35	0.06	0.14	0.04	22.3	20.3	17.2	16.0	5.0	4.7
40	0.07	0.19	0.10	20.4	19.2	15.1	14.8	2.5	3.2
45	0.11	0.23	0.26	18.4	18.1	13.6	13.5	1.9	2.6
50	0.18	0.27	0.45	16.5	17.0	12.7	12.3	1.9	2.8
55	0.31	0.29	0.55	16.5	16.3	12.3	11.5	2.6	3.5
60	0.56	--	--	16.5	16.3	12.2	11.5	4.3	4.2
65	1.02	--	--	--	--	--	--	--	--

* 10.0% is added to service retirement rate at age when employee is first eligible for unreduced benefit.

TABLE VIII (Continued)

SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

REVISED ASSUMPTIONS

GROUP I

GENERAL EMPLOYEES

FEMALE

Age	Mortality	Disability		Annual Rate of Withdrawal					
				First Year		Second Year		Later	
		State	Polisubs	State	Polisubs	State	Polisubs	State	Polisubs
20	0.02	0.04%	0.04%	32.6%	25.6%	27.2%	21.6%	18.5%	20.4%
25	0.02	0.04	0.04	26.2	22.6	23.3	18.5	15.7	15.5
30	0.02	0.05	0.04	24.3	21.4	20.0	17.3	11.1	10.9
35	0.03	0.07	0.04	22.3	20.3	17.2	16.0	6.7	7.2
40	0.05	0.17	0.10	20.4	19.2	15.1	14.8	3.5	4.9
45	0.07	0.28	0.26	18.4	18.1	13.6	13.5	2.3	3.8
50	0.10	0.37	0.45	16.5	17.0	12.7	12.3	2.4	3.6
55	0.16	0.45	0.55	16.5	16.3	12.3	11.5	3.3	4.0
60	0.31	--	--	16.5	16.3	12.2	11.5	5.0	4.7
65	0.60	--	--	--	--	--	--	--	--

* 10.0% is added to service retirement rate at age when employee is first eligible for unreduced benefit.

TABLE VIII (Continued)

SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

REVISED ASSUMPTIONS

SERVICE RETIREMENT RATES

The following rates are applied at each age at which a member is eligible for an unreduced service retirement benefit.

Age	Teachers	State	Polisubs	Group II	Group III
50	6.5%	7.0%	6.0%	10.0%	--
51	7.0	7.0	6.0	10.0	8.0%
52	7.0	7.0	6.5	15.0	8.0
53	8.5	7.0	6.5	15.0	8.0
54	9.0	7.0	7.5	20.0	8.0
55	10.0	7.0	7.5	20.0	9.6
56	12.0	8.0	8.0	20.0	9.6
57	13.5	8.0	9.5	20.0	9.6
58	14.0	8.5	10.5	25.0	9.6
59	14.5	8.5	10.5	25.0	9.6
60	15.0	9.0	9.5	30.0	9.6
61	20.0	11.5	15.0	30.0	9.6
62	26.0	21.5	24.5	45.0	20.0
63	19.5	14.5	16.5	35.0	9.6
64	24.0	16.0	17.5	35.0	9.6
65	37.5	29.0	26.0	40.0	20.0
66	30.5	17.5	18.5	40.0	20.0
67	28.5	17.5	16.0	40.0	20.0
68	28.5	17.5	16.0	100.0	20.0
69	28.5	17.5	16.5	100.0	20.0
70	100.0	17.5	18.0	100.0	20.0
71	100.0	20.5	18.0	100.0	100.0
72	100.0	20.5	18.0	100.0	100.0
73	100.0	20.5	18.0	100.0	100.0
74	100.0	20.5	18.0	100.0	100.0
75	100.0	100.0	100.0	100.0	100.0

Additional increments for retirees who have fifteen or more years of service at retirement on or after age 60

	Teachers	State	Polisubs	Group II	Group III
	8%	4.0%	4.0%	na	na

Additional increments for retirees in the year in which they are first eligible for unreduced retirement prior to age 60

	Teachers	State	Polisubs	Group II	Group III
	12.5%	10.0%	10.0%	15.0%	na

TABLE VIII (Continued)

SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

REVISED ASSUMPTIONS

GROUP II

	Annual Rate of	
Age	Disability	Withdrawal
20	0.08%	7.5%
25	0.08	7.5
30	0.09	7.5
35	0.14	7.5
40	0.19	7.5
45	0.23	7.5
50	0.27	7.5
55	0.29	--

* 15.0% is added to service retirement rate at age when employee is first eligible for unreduced benefit if prior to age 60.

GROUP III

Age	Annual Rate of Disability
20	0.01%
25	0.01
30	0.01
35	0.02
40	0.08
45	0.14
50	0.20
55	0.20
60	--
65	--

TABLE IX
ACTUARIAL CERTIFICATION

The actuarial valuation summarized in this report has been performed utilizing generally accepted actuarial principles and is based on the current provisions of the TCRS and on actuarial assumptions which we consider to be internally consistent and reasonably related, in the aggregate, to experience under the plan and to reasonable expectations. The valuation was performed in accordance with principles of practice prescribed by the Actuarial Standards Board, by me personally or by other qualified actuaries under my direct supervision. I am a member of the American Academy of Actuaries and have experience in performing valuations for public retirement systems. It is our opinion that the results fully and fairly disclose the actuarial position of the plan on the valuation date.

______________________	______________________
Date	Justin C. Thacker, F.S.A.
______________________	______________________
Date	Anthony S. Johnston, F.S.A.