Teachers' Retirement System of Oklahoma

ACTUARIAL VALUATION
June 30, 2002

GABRIEL, ROEDER, SMITH & COMPANY

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October 23, 2002

Board of Trustees
Teachers' Retirement System of Oklahoma
Oliver Hodge Education Building
2500 N. Lincoln Boulevard, 5th Floor
Oklahoma City, Oklahoma 73105

Dear Members of the Board:

Subject: Actuarial Valuation as of June 30, 2002

We certify that the information contained in this report is accurate and fairly presents the actuarial position of the Teachers' Retirement System of Oklahoma (the System) as of June 30, 2002.

All calculations have been made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, the results presented comply with the requirements of the Oklahoma statutes and, where applicable, the Internal Revenue Code, ERISA, and the Statements of the Governmental Accounting Standards Board. The undersigned are independent actuaries. Both are Enrolled Actuaries and Members of the American Academy of Actuaries, and both are experienced in performing valuations for large public retirement systems.

Actuarial Valuation

The primary purposes of the valuation report are to determine the adequacy of the current employer contribution rate, to describe the current financial condition of the System, and to analyze changes in the System's condition. In addition, the report provides information required by the System in connection with Governmental Accounting Standards Board Statement No. 25 (GASB 25), and it provides various summaries of the data.

Valuations are prepared annually, as of June 30 of each year, the last day of the System's plan and fiscal year.

Financing Objectives

The member, state, federal and local employer contribution rates are established by law. Members contribute 7.00% of covered compensation. The state contributes 3.54% of its revenues from sales taxes, use taxes, corporate income taxes and individual income taxes. Local employers contribute 7.05% of covered compensation. Additionally, OTRS receives "federal matching contributions", currently 5.0% of covered pay, for positions whose funding comes from federal sources or certain grants.

In the fiscal year ending June 30, 2002, the state's contribution plus the federal contribution was equivalent to a contribution of about 5.0% of covered payroll. But, because of falling projected state tax revenue, the estimated state and federal contributions will only amount to about 4.7% of covered payroll in the current fiscal year. Therefore the total combined state, local and federal contributions for 2002-03 and thereafter will be equivalent to a contribution of about 11.75% of payroll. However, the state's contribution rate as a percent of the specified revenues is now scheduled to increase to 3.75% in FY 2005, 4.00% in FY 2006, 4.50% in FY 2007, and 5.00% in FY 2008. Federal contributions should also increased in the same pattern. This should raise the state and federal contributions to 6.4% of covered payroll by the end of the transition period.

The state, local and federal contributions, when combined with the contributions made by members, are intended to pay for the normal cost and to amortize the unfunded actuarial accrued liability (UAAL).

Progress Toward Realization of Financing Objectives

The UAAL at June 30, 2001 was $5,632 million, and it increased to $5,965 million this year. This $333 million increase includes $131 million for the ad hoc COLA that was granted as of July 1, 2002. The funded ratio - actuarial value of assets divided by actuarial accrued liability - was unchanged at 51.4%.

Last year, the period required to completely amortize the UAAL (the funding period) based on the contribution schedule in effect at that time was 62.2 years, measured from June 30, 2001. This year, the funding period is 41.0 years. The main reason for the decrease is the adoption of new, higher contribution rates by the state, as discussed above.

Based on the current statutes for determining the state, federal and employer contribution rates, the UAAL is expected to increase slowly but steadily, reaching about $8.8 billion in 2024, before beginning to decline. It is expected to be completely amortized by 2043.

Deferred Asset Losses

All of the figures above (the UAAL, the funded ratio, and the funding period) are based on actuarial calculations that make use of the actuarial value of assets, not the market value. Because asset gains and losses – earnings greater or less than the 8.00% investment return assumption – are recognized 20% per year for five years in the actuarial value of assets, the current actuarial value ($6,311 million) is $893 million larger than the market value ($5,418 million). In the absence of a major market rebound, the $893 million in deferred losses will be recognized over the next four years. As these losses are recognized, the unfunded liability can be expected to increase by a corresponding amount, over and above other expected increases.

Benefit Provisions

The actuarial valuation reflects the benefit provisions as set forth in current statutes, including those adopted in the 2002 legislative session. There were two changes that affected the current valuation. First as of July 1, 2002 an ad hoc benefit increase was granted to retirees and beneficiaries who had been receiving benefits for at least one year. This was determined to be an increase of 3% for those with less than 30 years of credited service and 4% for those with 30 or more years of credited service. Second, a bill was adopted that will increase the percentage of future dedicated revenue to be contributed by the state in steps from its current level of 3.54% of specified revenue to 5.0% by July 1, 2007.

Assumptions and Methods

Assumptions are set by the Board of Trustees, taking into account the recommendations of the plan's actuaries. The actuarial assumptions and methods used in this report are unchanged from last year. The assumptions are internally consistent and are reasonably based on the actual experience of the System. We have, however, modified the calculation of the funding period to take into account expected federal matching contributions.

During the 2002 legislative session, legislation was adopted that requires the Retirement Board to submit information on the System to the Oklahoma State Pension Commission based on a prescribed set of assumptions. We have presented this information as an addendum in Appendix IV of this report.

Data

Member data for retired, active, and inactive participants was supplied as of June 30, 2002 by the System's staff. We have not subjected this data to any auditing procedures, but have examined the data for reasonableness and consistency with the prior year's data. Asset information was supplied by the auditors and by the System's staff.

We thank both the staff and the auditors for their assistance.

Sincerely,

Gabriel, Roeder, Smith & Company

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Executive Summary

Item	2002	2001
Membership		
• Number of		
- Active members	85,366	84,387
- Retirees and beneficiaries	36,515	35,188
- Inactive, vested	3,575	3,459
- Inactive, nonvested	8,755	8,335
- Total	134,211	131,369
• Payroll	$3,047 million	$2,991 million
Statutory contribution rates		
• State (% of tax revenues)	3.54%	3.54%
• Local district (% of pay)	7.05%	6.80%
• Member (% of pay)	7.00%	7.00%
Assets		
• Market value	$5,418 million	$5,732 million
• Actuarial value	6,311 million	5,959 million
• Return on market value	-5.4%	-2.3%
• Return on actuarial value	5.8%	11.4%
• State/local federal contributions	$365 million	$314 million
• External cash flow %	(0.0%)	(0.5%)
Actuarial Information		
• Normal cost %	10.28%	10.28%
• Unfunded actuarial accrued liability (UAAL)	$5,965 million	$5,632 million
• Funded ratio	51.4%	51.4%
• Funding period	41.0 years	62.2 years
GASB 25 ARC (40-year funding cost)		
• Dollar amount	$585,168,488	$556,201,571
• Percent of pay	18.74%	18.18%
Gains/(losses)		
• Asset experience	$(128) million	$181 million
• Liability experience	89 million	(237) million
• Benefit changes	(131) million	N/A
• Assumption changes (excl. COLA)	N/A	18 million
• 1% COLA assumption	N/A	(871) million
• Total	$(170) million	$(909) million

Introduction

The results of the June 30, 2002 actuarial valuation of the Teachers' Retirement System of Oklahoma are presented in this report.

The purposes of any actuarial valuation report are to describe the financial condition of the System, to assess the adequacy of the current contributions, and to analyze changes in the funding requirements. In addition, this report presents information required by the System in connection with Governmental Accounting Standards Board Statement No. 25 (GASB 25).

Section C discusses the determination of the current funding period. Section D analyzes the changes in the Unfunded Actuarial Accrued Liability. This section also discusses the gains and losses resulting from differences between actual experience and the actuarial assumptions.

Section E deals with the System's assets, while Section F discusses the changes in the benefit and contribution provisions since the previous valuation. Section G discusses liabilities calculated for GASB 25 purposes. Sections H and I discuss the actuarial assumptions and methods used and the membership data. Section J discusses the alternative valuation results based on the set of assumptions prescribed for reporting to the State's Pension Commission. (Results of this alternative valuation are shown in Appendix IV.)

All of the tables referenced by the other sections appear in Section K.

Funded Status

Because the employer contribution rates are set by statute, this report determines the funding period required to amortize the Unfunded Actuarial Accrued Liability (UAAL).

Overall, the actuarial picture presented in this report is somewhat better than last year's. The UAAL increased by $333 million, from $5.632 billion to $5.965 billion. The funded ratio – the ratio of the actuarial value of assets to actuarial accrued liability – is unchanged at 51.4%. The funding period – the number of years that would be required under the current contribution schedule to amortize the UAAL – has decreased from 62.2 years to 41.0 years.

The main reason for this decrease is the adoption of legislation that increased the future percentage of dedicated revenue that OTRS will receive from the state from its current level of 3.54% to 5.00% by July 1, 2007.

The poor investment results over the last two years have not helped the System's funded position. It remains among the five or six most poorly funded of all statewide plans in the nation. As noted above, the funded ratio is unchanged from last year at 51.4%. The actuarial value of assets is large enough to cover all of the liabilities for currently retired members, but the market value is no longer adequate to cover the retiree liability.

The current combined state/local/federal contribution rate of about 11.75% of pay for FY 2003 is not large enough to pay the normal cost and pay the interest on the UAAL. Therefore, negative amortization results. I.e., for the next several years the UAAL is expected to increase. See the schedule of projected UAAL's in Table 13. As may be seen, the UAAL is expected to continue increasing until around 2024, at which point positive amortization will begin to occur. It will take until about 2037 before the UAAL is again as low as it is now, in the absence of future gains or losses. The UAAL is scheduled to be completely amortized in FY 2043.

This report also determines the 40-year funding requirement under Section 17-106. This is the contribution required to fund the normal cost and to amortize the UAAL in level installments (not as a level percent of pay) over 40 years. This amount is reported as the Annual Required Contribution (ARC) under GASB 25, and is shown in Table 1.

Analysis of Changes

UAAL

Table 12a shows an analysis of the change in the UAAL. The UAAL, which was $5,632.1 million last year, has increased to $5,965.0 million this year. However, an increase of $187.7 million was expected, since the current statutory employer/state/federal contribution rate is not large enough to pay for the normal cost and for interest on the UAAL. Therefore, negative amortization is expected to occur.

The two main reasons for the larger than expected increase in the UAAL are poor investment performance and the granting of an ad hoc benefit increase for retirees. The asset loss increased the UAAL by $128.5 million, even though 80% of the FY 2002 loss and 60% of the FY 2001 loss are still deferred. I.e., they are not reflected in the actuarial value of assets. The return on the actuarial value was 5.8%, compared with the assumed 8.00% investment return rate. The actual return on market value was -5.4%. This is the first year since 1994 that the actuarial return was less than the assumed 8.00% rate. The ad hoc COLA effective July 1, 2002, increased the UAAL by $131 million. Note that this is not the full cost of the COLA, but is only the cost for the COLA in excess of the 1% increase anticipated by the actuarial assumptions.

There was a liability gain of $89.2 million, principally due to lower than expected salary increases. One minor factor affecting the UAAL was a $25.1 million decrease due to differences between actual and expected contributions.

Funding Period

The funding period (the period required to amortize the UAAL) decreased from 62.2 years to 41.0 years. An analysis is shown on Table 12b. The major reason for this is the expected future increases in the state's contribution, due to the scheduled increase in the contribution rates.

Revenue estimates for the State have decreased sharply since last year. In FY 2002, the state contributed over $141 million, but in FY 2003 OTRS estimates it will receive only $132 million. In determining the funding period, we have used the OTRS revenue estimates for state contributions for FY 2003, FY 2004 and FY 2005. These are based on a 4% revenue growth during this period. After this transition period we projected the state's tax revenue to increase 3.5% per year.

System Assets

This report contains several tables that summarize key information with respect to the System's assets. Assets are reported at market value as required under GASB 25.

Table 6a summarizes the assets held by class. The total market value of assets decreased from $5.732 billion to $5.418 billion. This excludes the value of the Teachers' Deposit Fund, which is subtracted from the assets in determining actuarial liabilities and costs. (The Teachers' Deposit Fund is the fund that holds the 403(b) plan assets.) Table 6b shows a comparison of the distribution of assets by category at the current and prior valuation dates. Equity investments decreased slightly from 59% to about 58% of total invested assets.

Table 7 reconciles the changes in the fund during the year. Employer contributions increased from $172.7 million to $210.8 million (6.8% of pay in the year just ended vs. 5.8% the year before). The state's contribution rose from $140.9 million to $141.1 million. Active member contributions increased from $216.8 million to $226.4 million, including state credits for contributions.

Table 8 shows the development of the actuarial value of assets. Rather than use the System's market value of assets, the valuation reflects a smoothed asset value. This actuarial value is calculated using a five-year average of the difference between expected and actual earnings. The actuarial value is 116% of market.

Table 9a provides a calculation of the estimated investment return for the year. As shown, the approximate investment return for 2001/2002 is –5.4% when measured on market value, and 5.8% when measured on actuarial value. Table 9b shows a history of return rates since the 1990/1991 plan year.

Table 10 shows an external cash flow history. External cash flow slightly improved this year, and it is now 0.0% of assets. The increase in the employer contribution rate was the main reason the cash flow position improved.

Table 11a shows the development of the asset loss. Since the System earned less than the assumed rate of 8%, based on the actuarial value of assets, the UAAL has been increased by the loss. This increase was $128.5 million for the current year.

Benefit and Contribution Provisions

Appendix I provides a summary of benefit and contribution provisions of the System, while Appendix II is a historical summary of legislative changes.

This valuation reflects new legislation adopted during the 2002 legislative session, including (i) the addition of an ad hoc benefit increase for retirees and (ii) increases in the future percentage of dedicated revenue to be contributed by the State.

GASB 25 Disclosure

This report includes three Tables--4a, 4b and 4c--showing information required to be reported under GASB 25. Table 4a shows a six-year history of funding progress.

This table shows significant improvement in funded status over the last six valuations, from 42.9% at June 30, 1997, to 51.4% currently, despite the recent asset losses and despite the modification of actuarial assumptions in 2001 to reflect a 1% annual ad hoc COLA each year in the future. There have been several minor benefit changes during this period; see Appendix II.

Table 4b shows the Annual Required Contribution (ARC) as computed under GASB 25, and it shows what percent of this amount was actually received. The ARC is computed as the normal cost plus a 40-year amortization of the UAAL. The 40-year period is re-determined each year (i.e., this is an "open amortization method"). The actual contributions that were compared with the ARC were the contributions received from employers, plus federal matching funds, plus the state's contribution.

Table 4c shows other information that must be included in the financial report.

Actuarial Assumptions and Methods

Appendix III summarizes the actuarial assumptions used to determine the plan's liabilities and the actuarial methods used to determine the normal cost, UAAL and funding period.

The most significant assumptions are the investment return rate (8%), the salary increase rate (averages about 4.7%), the payroll growth rate (3.5%), and the state revenue growth rate (3.5%). There were no changes in actuarial assumptions or methods since last year, except federal matching funds are now reflected in the calculation of the funding period. Actuarial assumptions were last changed in 2001, when the Board adopted changes recommended by the actuary, based on a review of System experience for the five-year period ending June 30, 1999.

When the System's experience does not match the actuarial assumptions, gains or losses arise. These gains and losses result in changes to the UAAL for the System, and in turn they change the funding period.

The method used to determine the normal cost, UAAL, and funding period is the Entry Age actuarial cost method. We continue to believe the Entry Age method is appropriate for the System.

Membership Data

Data on all members of the System, whether active, receiving a benefit, or entitled to a future benefit, was supplied by the System. See Item V of Appendix III for more information.

We did not verify the correctness of the data at the source, but we did perform various tests to ensure the internal consistency of the data and its overall reasonableness. In our review of this data we encountered a small number of records with missing or inconsistent information. We made adjustments to these records, but this did not materially impact the results shown.

Tables 5a and 5b show some key statistics for the various groups included, and Table 15 shows the distribution of active members by age and service.

There has been a 1.2% increase in the number of active members since the previous valuation, and a 1.9% increase in the payroll for active members. Membership has grown an average of 1.4% over the last five years, and 1.5% over the last ten years. Payroll for covered members (without regard to the pay caps) has grown an average of 4.6% over the last five years, and 4.3% over the last ten years.

Over the last several years, the active group has slowly gotten older. As shown on Table 5b, the average age for the active group has increased 1.6 years during the last ten years, and during that period, the average tenure of members has increased 0.5 years.

Prescribed Assumptions for Reporting Purposes

During the 2002 legislative session, legislation was adopted that requires the Retirement Board to submit information on the System to the Oklahoma State Pension Commission based on the following prescribed set of assumptions.

Interest rate = 7.5%
COLA assumption = 2.0%
Mortality = RP 2000 Generational Mortality Tables / active members, healthy annuitants, and disabled annuitants
Amortization Period = 30 years open period

All contributions and revenues, including dedicated fee revenue and federal monies, must be reflected. All other assumptions, methodologies, and plan provisions used must be consistent with those used in the regular actuarial valuation.

We have presented this information as an addendum to this report in Appendix IV.

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Development of Employer Cost

		June 30, 2002 (1)	June 30, 2001 (2)
1.	Payroll		
	a. Supplied by system	$ 3,047,149,510	$ 2,990,541,250
	b. Adjusted for one year's pay increase	3,187,766,000	3,130,642,000
	c. Adjusted for one year's pay increase with pay caps	3,121,937,000	3,060,242,000
2.	Present value of future pay (paid monthly, with pay caps)	$ 24,578,171,000	$ 24,173,471,000
3.	Normal cost rate (payable monthly)		
	a. Total normal cost rate	10.28%	10.28%
	b. Less: member rate	(7.00%)	(7.00%)
	c. Employer normal cost rate	3.28%	3.28%
4.	Actuarial accrued liability for active members		
	a. Present value of future benefits for active members	$ 8,657,751,000	$ 8,443,418,000
	b. Less: present value of future employer normal costs (Item 3c * Item 2)	(806,164,009)	(792,889,849)
	c. Less: present value of future member contributions	(1,720,472,000)	(1,692,143,000)
	d. Actuarial accrued liability	$ 6,131,114,991	$ 5,958,385,151
5.	Total actuarial accrued liability for:		
	a. Retirees and beneficiaries	$ 5,959,905,900	$ 5,459,646,800
	b. Inactive members	184,894,014	173,055,278
	c. Active members (Item 4d)	6,131,114,991	5,958,385,151
	d. Total	$ 12,275,914,905	$ 11,591,087,229
6.	Actuarial value of assets	$ 6,310,930,799	$ 5,959,008,704
7.	Unfunded actuarial accrued liability (UAAL) (Item 5d - Item 6)	$ 5,964,984,106	$ 5,632,078,525
8.	Funding period	41.0 years	62.2 years
9.	40-year amortization cost		
	a. Employer normal cost (Item 1c * 3c)	$ 102,399,534	$ 100,375,938
	b. Level 40-year amortization of UAAL (payable monthly)	482,768,954	455,825,633
	c. Total	$ 585,168,488	$ 556,201,571
	d. Contribution as percentage of payroll (9c/1c)	18.74%	18.18%

Actuarial Present Value of Future Benefits

		June 30, 2002 (1)	June 30, 2001 (2)
1.	Active members		
	a. Service retirement benefits	$ 7,518,001,000	$ 7,329,349,000
	b. Deferred termination benefits	80,354,000	85,916,000
	c. Refunds	425,527,000	403,044,000
	d. Death benefits	46,877,000	48,209,000
	e. Disability retirement benefits	187,817,000	184,668,000
	f. Supplemental medical insurance	371,321,000	365,078,000
	g. $5,000 post-retirement death benefit	27,854,000	27,154,000
	h. Total	$ 8,657,751,000	$ 8,443,418,000
2.	Retired members		
	a. Service retirements	$ 5,288,419,600	$ 4,829,407,100
	b. Disability retirements	98,154,600	90,439,500
	c. Beneficiaries	145,743,100	128,959,000
	d. Supplemental medical insurance	367,327,700	352,513,800
	e. $5,000 post-retirement death benefit	60,260,900	58,327,400
	f. Total	$ 5,959,905,900	$ 5,459,646,800
3.	Inactive members		
	a. Vested terminations	$ 125,327,693	$ 120,379,844
	b. Nonvested terminations	41,221,382	35,767,451
	c. Suspense fund	18,344,939	16,907,983
	d. Total	$ 184,894,014	$ 173,055,278
4.	Total actuarial present value of future benefits	$ 14,802,550,914	$ 14,076,120,078

Analysis of Normal Cost

	June 30, 2002 (1)	June 30, 2001 (2)
1. Gross normal cost rate (payable monthly)		
a. Retirement benefits	7.55%	7.55%
b. Deferred termination benefits	0.13%	0.13%
c. Refunds	1.91%	1.91%
d. Supplemental medical insurance	0.36%	0.36%
e. $5,000 Post-retirement death benefits	0.03%	0.03%
f. Disability retirement benefits	0.30%	0.30%
g. Total	10.28%	10.28%
2. Less: member rate	7.00%	7.00%
3. Employer normal cost rate	3.28%	3.28%
4. Effectiveness of member contributions		
a. Member rate	7.00%	7.00%
b. Less: cost of refunds	(1.91%)	(1.91%)
c. Net member rate available for benefits	5.09%	5.09%
d. Effectiveness rate (4c/4a)	72.71%	72.71%

Schedule of Funding Progress
(As required by GASB #25)

Valuation Date (1)	Actuarial Value of Assets (AVA) (2)	Actuarial Accrued Liability (AAL) (3)	Unfunded Actuarial Accrued Liability (UAAL) (3) - (2) (4)	Funded Ratio (2)/(3) (5)	Annual Covered Payroll (6)	UAAL as % of Payroll (4)/(6) (7)
June 30, 1997	$3,544.9	$8,257.2	$4,712.3	42.9%	$2,428.7	194.0%
June 30, 1998	$4,085.0	$8,891.3	$4,806.3	45.9%	$2,537.7	189.4%
June 30, 1999	$4,708.0	$9,458.6	$4,750.5	49.8%	$2,648.4	179.4%
June 30, 2000	$5,373.5	$10,009.2	$4,635.7	53.7%	$2,738.3	169.3%
June 30, 2001	$5,959.0	$11,591.1	$5,632.1	51.4%	$2,990.5	188.3%
June 30, 2002	$6,310.9	$12,275.9	$5,965.0	51.4%	$3,047.1	195.8%

Note : Dollar amounts in millions
Beginning with June 30, 2001 results, values reflect assumed 1% average COLA.

Schedule of Employer Contributions
(As required by GASB #25)

Year Ending June 30,	Annual Required Contribution	Percentage Contributed
(1)	(2)	(3)
1997	$446,459,961	62.0%
1998	$446,219,296	59.1%
1999	$456,864,002	53.5%
2000	$455,265,033	60.6%
2001	$451,463,258	72.7%
2002	$556,201,571	65.6%

Notes to Required Supplementary Information
(as required by GASB #25)

The information presented in the required supplementary schedules was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation follows:

Valuation date	June 30, 2002
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar, open
Remaining amortization period	40 years
Asset valuation method	5-year smoothed market
Actuarial assumptions:	
Investment rate of return *	8.00%
Projected salary increase *	4.25% to 7.00%
* Includes inflation at:	3.00%
Cost of living adjustment	1.00%

Membership Data

		June 30, 2002 (1)	June 30, 2001 (2)
1.	Active members		
	a. Number	85,366	84,387
	b. Total payroll supplied by System	$ 3,047,149,510	$ 2,990,541,250
	c. Average salary	35,695	35,438
	d. Average age	44.9	44.7
	e. Average service	11.1	11.0
2.	Vested inactive members		
	a. Number	3,575	3,459
	b. Total annual deferred benefits	$ 19,201,214	$ 18,685,270
	c. Average annual deferred benefit	5,371	5,402
3.	Nonvested inactive members		
	a. Number	8,755	8,335
	b. Member contributions with interest due	$ 41,221,382	$ 35,767,451
	c. Average refund due	4,708	4,291
4.	Service retirees		
	a. Number	33,623	32,365
	b. Total annual benefits[1]	$ 530,651,544	$ 487,500,130
	c. Average annual benefit	15,782	15,063
5.	Special service retirees		
	a. Number	330	407
	b. Total annual benefits[1]	$ 712,078	$ 852,469
	c. Average annual benefit	2,158	2,095
6.	Disabled retirees		
	a. Number	1,204	1,144
	b. Total annual benefits[1]	$ 12,163,236	$ 11,289,811
	c. Average annual benefit	10,102	9,869
7.	Beneficiaries and spouses		
	a. Number	1,358	1,272
	b. Total annual benefits[1]	$ 16,751,805	$ 14,843,370
	c. Average annual benefit	12,336	11,669

[1] Benefit amounts exclude the supplemental medical insurance payment.

2002 benefit amounts include COLA effective July 1, 2002

TABLE 5b

Historical Summary of Active Member Data

	Active Members		Covered Payroll		Average Salary			
Valuation as of June 30,	Number	Percent Increase	Amount in $ Millions	Percent Increase	$ Amount	Percent Increase	Average Age	Average Service
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1991	71,936	4.2%	1,921	10.1%	26,709	5.7%	43.1	10.5
1992	73,568	2.3%	2,002	4.2%	27,218	1.9%	43.3	10.6
1993	75,599	2.8%	2,122	6.0%	28,069	3.1%	43.4	10.7
1994	76,280	0.9%	2,190	3.2%	28,704	2.3%	43.6	10.8
1995	79,044	3.6%	2,336	6.7%	29,555	3.0%	43.6	10.7
1996	78,942	(0.1%)	2,375	1.7%	30,091	1.8%	44.0	11.1
1997	79,510	0.7%	2,429	2.3%	30,546	1.5%	44.2	11.2
1998	80,578	1.3%	2,538	4.5%	31,493	3.1%	44.3	11.2
1999	81,851	1.6%	2,648	4.3%	32,356	2.7%	44.4	11.2
2000	83,024	1.4%	2,738	3.4%	32,982	1.9%	44.5	11.0
2001	84,387	1.6%	2,991	9.2%	35,438	7.4%	44.7	11.0
2002	85,366	1.2%	3,047	1.9%	35,695	0.7%	44.9	11.1

Plan Net Assets
(Assets at Market or Fair Value)

Item	Valuation as of June 30, 2002	Valuation as of June 30, 2001
(1)	(2)	(3)
1. Cash and cash equivalents	$ 3,281,205	$ 3,223,790
2. Receivables		
a. Employer and member contributions	$ 33,418,434	$ 30,734,990
b. State contribution	12,968,052	18,395,406
c. Net investment income and other	(45,726,674)	(39,097,121)
d. Total receivables	$ 659,812	$ 10,033,275
3. Investments		
a. Invested cash and other	$ 294,413,621	$ 233,955,161
b. Domestic equities	2,602,427,287	2,944,810,504
c. International equities	734,074,081	645,377,808
d. Domestic fixed income	2,065,982,124	2,160,188,453
e. International fixed income	47,384,912	77,067,622
f. Real estate, furniture & equipment	404,771	382,620
g. Total investments	$ 5,744,686,796	$ 6,061,782,168
4. Total assets	$ 5,748,627,813	$ 6,075,039,233
5. Liabilities		
a. Benefits payable	$ 45,185,670	$ 13,558,383
b. Insurance premium payable	2,414,798	2,418,373
c. Expenses	4,144,139	4,548,039
d. Total liabilities	$ 51,744,607	$ 20,524,795
6. Net assets available (Item 4 - Item 5)	$ 5,696,883,206	$ 6,054,514,438
7. Less: Teachers' Deposit Fund	(278,991,127)	(322,761,093)
8. Net assets available for OTRS benefits	$ 5,417,892,079	$ 5,731,753,345

Distribution of Assets at Market Value
(Percentage of Total Investments)

Item		Valuation as of June 30, 2002	Valuation as of June 30, 2001
(1)		(2)	(3)
a.	Invested cash and other	5.12%	3.86%
b.	Domestic equities	45.31%	48.57%
c.	International equities	12.78%	10.65%
d.	Domestic fixed income	35.96%	35.64%
e.	International fixed income	0.82%	1.27%
f.	Real estate, furniture & equipment	0.01%	0.01%
g.	Total investments	100.00%	100.00%

Reconciliation of Plan Net Assets

	Year Ending June 30, 2002 (1)		Year Ending June 30, 2001 (2)	
1. Market value of assets at beginning of year, net of Teachers' Deposit Fund	$ 5,727,193,205	**	$ 5,894,900,455	*
2. Revenue for the year				
a. Contributions				
i. Member contributions, including state credit	$ 226,445,669		$ 216,752,852	
ii. Federal matching funds	13,138,458		14,406,265	
iii. State contribution	141,057,868		140,925,355	
iv. Employer/district contributions	210,829,995		172,749,389	
v. Total	$ 591,471,990		$ 544,833,861	
b. Net investment earnings				
i. Interest, dividends and other income	$ 189,838,153		$ 215,126,537	
ii. Net appreciation/(depreciation)	(499,102,940)		(342,603,971)	
iii. Less: investment expenses	(16,469,508)		(16,590,368)	
iv. Less: transfers to Teachers' Deposit Fund	16,817,828		8,299,566	
v. Net investment earnings	$ (308,916,467)		$ (135,768,236)	
c. Total revenue	$ 282,555,523		$ 409,065,625	
3. Expenditures for the year				
a. Refunds	$ 26,728,503		$ 31,432,937	
b. Benefit payments, including insurance payments	561,222,392		537,308,002	
c. Administrative expenses	3,905,754		3,471,796	
d. Total expenditures	$ 591,856,649		$ 572,212,735	
4. Increase in net assets (Item 2 - Item 3)	$ (309,301,126)		$ (163,147,110)	
5. Market value of assets at end of year, net of Teachers' Deposit Fund (Item 1 + Item 4)	$ 5,417,892,079		$ 5,731,753,345	

* The June 30, 2000 Market Value was adjusted due to implementation of GASB 33, reflecting an additional $4,560,140 in receivable contributions from the State of Oklahoma.

** This accrual was reversed in FY 2002.

Development of Actuarial Value of Assets

		Year Ending June 30, 2002
1.	Market value of assets at beginning of year	$ 5,727,193,205
2.	Net new investments	
	a. Contributions	$ 591,471,990
	b. Benefits paid	(561,222,392)
	c. Refunds	(26,728,503)
	d. Subtotal	3,521,095
3.	Market value of assets at end of year	$ 5,417,892,079
4.	Net earnings (3-1-2)	$ (312,822,221)
5.	Assumed investment return rate	8.00%
6.	Expected return	$ 458,316,300
7.	Excess return (4-6)	$ (771,138,521)

8. Excess return on assets for last four years :

	Period End	Excess Return (2)	Percent Deferred (3)	Deferred Amount (4)
a.	June 30, 1999	183,867,262	20%	$ 36,773,452
b.	June 30, 2000	132,560,291	40%	53,024,116
c.	June 30, 2001	(609,875,785)	60%	(365,925,471)
d.	June 30, 2002	(771,138,521)	80%	(616,910,817)
				$ (893,038,720)

9.	Actuarial value of assets (Item 3 - Item 8)	$ 6,310,930,799
10.	Actuarial value as percentage of market value	116.5%

Estimation of Yields

	Year Ending June 30, 2002 (1)	Year Ending June 30, 2001 (2)
A. Market value yield		
1. Beginning of year market assets	$ 5,727,193,205 *	$ 5,894,900,455 *
2. Net investment income (including realized and unrealized gains and losses)	$ (308,916,467)	$ (135,768,236)
3. End of year market assets	$ 5,417,892,079	$ 5,731,753,345
4. Estimated dollar weighted market value yield	-5.4%	-2.3%
B. Actuarial value yield		
1. Beginning of year actuarial assets	$ 5,959,008,704	$ 5,373,476,089
2. Actuarial return	$ 348,401,000	$ 609,439,693
3. End of year actuarial assets	$ 6,310,930,799	$ 5,959,008,704
4. Estimated actuarial value yield	5.8%	11.4%

* Restated

History of Investment Return Rates

Year Ending June 30 of	Market	Actuarial
(1)	(2)	(3)
1990	9.7%	10.4%
1991	9.7%	9.0%
1992	13.7%	12.0%
1993	13.5%	12.7%
1994	2.0%	6.5%
1995	14.9%	11.2%
1996	14.6%	11.6%
1997	20.9%	13.5%
1998	21.4%	15.8%
1999	11.9%	17.1%
2000	10.5%	15.5%
2001	-2.3%	11.4%
2002	-5.4%	5.8%

History of Cash Flow

Year Ending June 30, (1)	Contributions (2)	Benefit Payments (3)	Refunds (4)	Administrative Expenses (5)	Total (6)	External Cash Flow for the Year[1] (7)	Market Value of Assets (8)	External Cash Flow as Percent of Market Value (9)
1992	282.8	(317.5)	(12.9)	(2.1)	(332.5)	(49.7)	2,349	(2.1%)
1993	339.5	(332.1)	(12.8)	(2.2)	(347.1)	(7.6)	2,659	(0.3%)
1994	340.6	(351.1)	(13.3)	(2.5)	(366.9)	(26.3)	2,684	(1.0%)
1995	307.1	(377.5)	(14.2)	(2.2)	(393.9)	(86.8)	2,991	(2.9%)
1996	321.0	(396.1)	(18.1)	(2.2)	(416.4)	(95.4)	3,325	(2.9%)
1997	443.2	(418.0)	(20.1)	(2.4)	(440.5)	2.7	4,041	0.1%
1998	444.8	(439.2)	(23.0)	(3.3)	(465.5)	(20.7)	4,884	(0.4%)
1999	435.0	(479.6)	(24.5)	(2.7)	(506.9)	(71.8)	5,387	(1.3%)
2000	471.8	(500.3)	(29.5)	(3.0)	(532.7)	(60.9)	5,890	(1.0%)
2001	544.8	(537.3)	(31.4)	(3.5)	(572.2)	(27.4)	5,732	(0.5%)
2002	591.5	(561.2)	(26.7)	(3.9)	(591.9)	(0.4)	5,418	(0.0%)

Dollar amounts in millions

[1] Column (7) = Column (2) + Column (6).

Investment Experience Gain or Loss

Item (1)		Year Ending June 30, 2002 (2)	Year Ending June 30, 2001 (3)
1.	Actuarial assets, beginning of year	$ 5,959,008,704	$ 5,373,476,089
2.	Contributions during year	$ 591,471,990	$ 544,833,861
3.	Benefits and refunds paid	$ (587,950,895)	$ (568,740,939)
4.	Assumed net investment income at 8%		
	a. Beginning of year assets	$ 476,720,696	$ 429,878,087
	b. Contributions	23,658,880	21,793,354
	c. Benefits and refunds paid	(23,518,036)	(22,749,638)
	d. Total	$ 476,861,540	$ 428,921,803
5.	Expected actuarial assets, end of year (Sum of items 1 through 4)	$ 6,439,391,339	$ 5,778,490,814
6.	Actual actuarial assets, end of year	$ 6,310,930,799	$ 5,959,008,704
7.	Asset gain (loss) for year (Item 6 - Item 5)	$ (128,460,540)	$ 180,517,890

Total Experience Gain or Loss

Item	Year Ending June 30, 2002	Year Ending June 30, 2001
(1)	(2)	(3)
A. Calculation of total actuarial gain or loss		
1. Unfunded actuarial accrued liability (UAAL), previous year	$ 5,632,078,525	$ 4,635,697,622
2. Normal cost for the year (employer and employee)	$ 314,592,878	$ 272,583,598
3. Less: total contributions for the year	$ (591,471,990)	$ (544,833,861)
4. Interest at 8 %		
a. On UAAL	$ 450,566,282	$ 370,855,810
b. On normal cost	12,583,715	10,903,344
c. On contributions	(23,658,880)	(21,793,354)
d. Total	$ 439,491,117	$ 359,965,800
5. Expected UAAL (Sum of Items 1 - 4)	$ 5,794,690,530	$ 4,723,413,159
6. Actual UAAL	$ 5,964,984,106	$ 5,632,078,525
7. Total gain (loss) for the year (Item 5 - Item 6)	$ (170,293,576)	$ (908,665,366)
B. Source of gains and losses		
8. Asset gain (loss) for the year	$ (128,460,540)	$ 180,517,890
9. Liability gain (loss) for the year	89,211,564	(236,516,719)
10. Legislation (ad hoc COLA for retirees)	(131,044,600)	0
11. Assumption changes (excluding 1% COLA assmpt.)	0	18,329,421
12. 1% COLA assumption	0	(870,995,958)
13. Total	$ (170,293,576)	$ (908,665,366)

Analysis of Change in Unfunded Actuarial Accrued Liability (UAAL)

Basis	June 30, 2002 UAAL (in $ Millions)	June 30, 2001 UAAL (in $ Millions)
1. From prior valuation	$ 5,632.1	$ 4,635.7
2. Impact of changes, gains and losses		
a. Expected increase based on statutory contributions and passage of time	187.7	138.6
b. Liability (gain)/loss	(89.2)	236.5
c. Asset (gain)/loss	128.5	(180.5)
d. Impact of actual ctrb greater than expected under schedule	(25.1)	(50.9)
e. Legislative change (retiree ad hoc COLA)	131.0	0.0
f. Assumption changes (excluding 1% COLA assmpt.)	0.0	(18.3)
g. 1% COLA assumption	0.0	871.0
h. Total	332.9	996.4
3. Current UAAL (1+2h)	$ 5,965.0	$ 5,632.1

Analysis of Change in Funding Period

	Basis	June 30, 2002 Funding Period (Years)	June 30, 2001 Funding Period (Years)
1.	Funding period (years) from prior valuation	62.2	31.0
2.	Impact of changes, gains and losses		
a.	Expected (decrease)/increase	(1.0)	(1.0)
b.	Impact of payroll and revenue growth different than expected (incl decr in dedicated rev and recognition of fed matching money)	3.8	(1.8)
c.	Impact of future increased percentage of dedicated revenue	(26.5)	0.0
d.	Impact of contributions greater than expected	(0.4)	(0.5)
e.	Impact of asset (gain)/loss	2.1	(2.0)
f.	Impact of liability (gain)/loss	(1.5)	2.6
g.	Impact of legislative change (retiree ad hoc COLA)	2.3	0.0
h.	Impact of assumpt. changes (excluding 1% COLA assmpt.)	0.0	2.7
i.	Impact of 1% COLA assumption	0.0	31.2
j.	Total	(21.2)	31.2
3.	Current funding period (years) (1+2j)	41.0	62.2

Projection of UAAL

		Valuation Date	UAAL (Millions)
		(1)	(2)
A.	Actual	June 30, 1993	$3,887.7
		June 30, 1994	4,038.8
		June 30, 1995	4,610.5
		June 30, 1996	4,740.2
		June 30, 1997	4,712.3
		June 30, 1998	4,806.2
		June 30, 1999	4,750.5
		June 30, 2000	4,635.7
		June 30, 2001	5,632.1
		June 30, 2002	5,965.0
B.	Projected	June 30, 2003	$6,169.8
		June 30, 2004	6,381.7
		June 30, 2005	6,589.9
		June 30, 2006	6,792.2
		June 30, 2007	6,974.6
		June 30, 2008	7,132.1
		June 30, 2009	7,288.2
		June 30, 2010	7,442.2
		June 30, 2011	7,593.6
		June 30, 2012	7,741.6
		June 30, 2013	7,885.2
		June 30, 2014	8,023.8
		June 30, 2015	8,156.2
		June 30, 2016	8,281.3
		June 30, 2017	8,398.0
		June 30, 2018	8,505.0
		June 30, 2019	8,600.7
		June 30, 2020	8,683.6
		June 30, 2021	8,752.0
		June 30, 2022	8,803.9

Projection of UAAL (cont.)

Valuation Date	UAAL (Millions)
(1)	(2)
June 30, 2023	$8,837.3
June 30, 2024	$8,849.9
June 30, 2025	$8,839.1
June 30, 2026	$8,802.4
June 30, 2027	$8,736.7
June 30, 2028	$8,638.8
June 30, 2029	$8,505.1
June 30, 2030	$8,331.9
June 30, 2031	$8,115.0
June 30, 2032	$7,849.8
June 30, 2033	$7,531.4
June 30, 2034	$7,154.3
June 30, 2035	$6,712.9
June 30, 2036	$6,200.6
June 30, 2037	$5,610.6
June 30, 2038	$4,935.4
June 30, 2039	$4,166.9
June 30, 2040	$3,296.1
June 30, 2041	$2,313.6
June 30, 2042	$1,208.8

Solvency Test

Actuarial Accrued Liability and Percent of Active Member Payroll for:

	Accumulated Member Contributions Including Interest		Retirees and Beneficiaries Currently Receiving Benefits		Terminated Employees Not Yet Receiving Benefits		Employer Financed Portion of Vested and Nonvested Benefits			Portion of Accrued Liabilities Covered by Assets			
June 30,	(1)	% of Payroll	(2)	% of Payroll	(3)	% of Payroll	(4)	% of Payroll	Actuarial Value of Assets	(1)	(2)	(3)	(4)
1991	1,044.4	54%	2,662.9	139%	68.1	4%	1,669.2	87%	2,089.6	100%	39%	0%	0%
1992	1,186.7	59%	2,778.7	139%	78.5	4%	2,039.5	102%	2,287.1	100%	40%	0%	0%
1993	1,333.1	63%	2,926.1	138%	90.2	4%	2,107.6	99%	2,569.2	100%	42%	0%	0%
1994	1,467.9	67%	3,187.5	146%	102.5	5%	1,978.1	90%	2,697.2	100%	39%	0%	0%
1995	1,628.4	70%	3,409.3	146%	96.7	4%	2,346.0	100%	2,869.9	100%	36%	0%	0%
1996	1,799.1	76%	3,586.3	151%	106.7	4%	2,351.1	99%	3,103.0	100%	36%	0%	0%
1997	1,967.9	81%	3,797.8	156%	114.4	5%	2,377.1	98%	3,544.9	100%	42%	0%	0%
1998	2,143.4	84%	4,195.9	165%	125.7	5%	2,426.3	96%	4,085.0	100%	46%	0%	0%
1999	2,330.6	88%	4,415.0	167%	136.4	5%	2,576.5	97%	4,708.0	100%	54%	0%	0%
2000	2,518.2	92%	4,803.8	175%	151.1	6%	2,536.1	93%	5,373.5	100%	59%	0%	0%
2001	2,728.4	91%	5,459.6	183%	173.1	6%	3,230.0	108%	5,959.0	100%	59%	0%	0%
2002	2,934.3	96%	5,959.9	196%	184.9	6%	3,196.8	105%	6,310.9	100%	57%	0%	0%

Note : Dollar amounts in millions

Distribution of Active Members by Age and by Years of Service
As of 06/30/2002

	Years of Credited Service													
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over	Total
Attained Age	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.
Under 25	1,000	467	138	34	11	5	0	0	0	0	0	0	0	1,655
	$24,682	$24,688	$23,144	$18,402	$17,241	$21,619	$0	$0	$0	$0	$0	$0	$0	$24,368
25-29	1,352	1,401	1,501	1,046	799	764	5	0	0	0	0	0	0	6,868
	$28,034	$28,463	$29,265	$30,056	$30,902	$31,338	$28,260	$0	$0	$0	$0	$0	$0	$29,400
30-34	1,102	1,028	978	839	757	3,444	853	2	0	0	0	0	0	9,003
	$28,785	$29,990	$30,660	$30,645	$32,061	$33,711	$34,522	$31,530	$0	$0	$0	$0	$0	$32,004
35-39	999	962	870	753	607	2,182	2,824	729	0	0	0	0	0	9,926
	$28,142	$29,710	$29,779	$31,383	$30,747	$34,589	$36,155	$38,292	$0	$0	$0	$0	$0	$33,285
40-44	908	912	914	777	680	2,668	2,453	2,389	1,134	0	0	0	0	12,835
	$27,396	$28,704	$29,954	$29,911	$30,092	$32,342	$37,689	$39,978	$41,002	$0	$0	$0	$0	$34,505
45-49	686	758	754	622	609	2,564	2,972	1,974	2,973	1,207	0	0	0	15,119
	$29,726	$30,115	$30,464	$30,672	$31,851	$32,756	$36,530	$41,235	$43,423	$44,354	$0	$0	$0	$37,122
50-54	555	574	507	479	471	2,026	2,940	2,542	2,102	2,461	720	0	0	15,377
	$29,460	$31,140	$31,539	$33,547	$32,689	$33,631	$36,014	$39,597	$46,401	$46,554	$46,898	$0	$0	$39,164
55-59	308	277	258	244	235	1,227	1,966	1,951	1,304	852	832	154	0	9,608
	$29,310	$28,389	$32,430	$32,163	$33,468	$34,178	$35,769	$36,455	$47,844	$55,132	$52,438	$49,623	$0	$40,069
60-64	110	108	101	82	104	503	858	815	442	313	242	161	22	3,861
	$23,635	$28,004	$24,947	$29,155	$26,628	$31,831	$34,668	$33,856	$50,129	$56,889	$68,396	$63,290	$61,722	$40,071
65-69	32	39	34	25	19	115	201	137	84	34	42	35	15	812
	$18,915	$20,687	$20,729	$24,269	$23,598	$26,486	$33,550	$36,216	$48,142	$61,762	$77,042	$91,769	$72,090	$38,911
70 & Over	30	12	12	7	11	55	70	52	12	11	8	7	15	302
	$20,816	$11,599	$15,866	$15,777	$20,909	$17,948	$22,140	$27,511	$37,909	$63,300	$77,604	$89,568	$72,117	$28,950
Total	7,082	6,538	6,067	4,908	4,303	15,553	15,142	10,591	8,051	4,878	1,844	357	52	85,366
	$27,802	$28,989	$29,855	$30,715	$31,230	$33,178	$36,121	$38,773	$44,984	$48,315	$53,039	$60,702	$67,711	$35,695

Summary of Plan Provisions

1. Effective Date: July 1, 1943.

2. Plan Year: Twelve-month period ending June 30th.

3. Administration: The System is administered by a Board of Trustees, which is responsible for administration of the System and investment of System assets. Three members serve ex officio, while a total of ten others are appointed by the Governor (six), the President of the Senate (two), and the Speaker of the House (two), according to various guidelines.

4. Type of Plan: The System is a qualified governmental defined benefit retirement plan. For GASB purposes, it is a cost-sharing multiple-employer PERS.

5. Eligibility: All employees of any public school in Oklahoma, including public colleges and universities, are eligible to participate in the System. Classified personnel (teachers, supervisors, principals, registered school nurses, administrators, etc.) are required to participate, beginning at their date of employment. Non-classified employees (all other employees, such as drivers, secretaries, janitors, cooks, etc.) may, but are not required to, participate. Certain other State employees, such as employees of the System itself, participate in the System.

6. Maximum Pay: At one time, contributions under this system were based on pay up to a maximum dollar amount. Members could choose between a $40,000 maximum and a $25,000 maximum. The member's Final Average Compensation was limited by this same maximum, so the member's election affected his/her benefits, as well as contributions.

   This maximum no longer applies in determining the required member and employer contributions for most members. It does still have an impact, however. As noted below, benefits based on service earned before July 1, 1995 are limited by the $40,000 or $25,000 maximum, whichever was elected.

   In addition, members employed by one of the comprehensive universities who entered the system before July 1, 1995 still have their current member and employer contributions limited according to the schedule on the following page.

	Elected $40,000 Maximum	Elected $25,000 Maximum
1995/1996	$44,000	$27,500
1996/1997	49,000	32,500
1997/1998	54,000	37,500
1998/1999	59,000	42,500
1999/2000	59,000	42,500
2000/2001	64,000	47,500
2001/2002	69,000	52,500
2002/2003	74,000	57,500
2003/2004	79,000	62,500
2004/2005	84,000	67,500
2005/2006	89,000	72,500
2006/2007	94,000	77,500
Thereafter	No limit	No limit

Benefits for some members in higher education are likewise limited for the period before July 1, 2007.

7. Member Contributions: Generally, active members contribute 7% of all compensation to the System. As noted in the preceding item, however, contributions for some members in higher education are limited by a pay maximum. A school district may pay all or part of the contribution for its employees.

8. Employer Contributions: Employers are required to contribute a fixed percentage of pay on behalf of active members. The employer contribution rate is applied to all pay, except as already noted in the case of certain higher education employees. Beginning July 1, 2002, the local employer contribution rate is 7.05%.

   In addition, the state will contribute a percentage of revenues from sales taxes, use taxes, corporate income taxes and individual income taxes. That percentage is currently 3.54%, but it is scheduled to increase to 5.00% by FY 2008, as shown below.

Fiscal Year	**Contribution Percentage**
FY 2003	3.54%
FY 2004	3.54%
FY 2005	3.75%
FY 2006	4.00%
FY 2007	4.50%
FY 2008	5.00%

If a member's salary is paid from federal funds or certain grant money, an additional contribution (the federal matching contribution) is required. The federal contribution rate is set by the Board of Trustees annually, and is intended to approximate the state's contribution, expressed as a percentage of non federal/grant salaries.

9. Service: Employees receive credit for a year of service if they are contributing members for at least six months within one school year. Credit may also be granted for service prior to the System's effective date, and non-classified employees can purchase credit for their prior service once they have joined the System. Credit is also available for some out-of-state and military service under certain circumstances.

10. Final Average Compensation (FAC): The average of the member's compensation for the three or five years on which the highest contributions are paid. For persons becoming members before July 1, 1992, the averaging period is three years. For other members, the averaging period is five years. For service prior to July 1, 1995, the FAC is limited to $40,000 or $25,000, depending on the member's election as discussed in Item 6 above.

11. Normal Retirement

    a. Eligibility: A member is eligible to retire and receive a Normal Retirement benefit if (i) the member is at least age 62 and has credit for 10 or more years of service, or (ii) the sum of the member's age and service is at least 80 (Rule of 80). (For members joining after June 30, 1992, a "Rule of 90" is used instead of the "Rule of 80".)

    b. Monthly Benefit: 2% of FAC (limited to $40,000 or $25,000, as appropriate) times years of service prior to July 1, 1995, plus 2% of FAC (unlimited) times years of service after June 30, 1995. Special provisions apply to higher education members for service during the period July 1, 1995 through June 30, 2007. Monthly benefits are equal to one-twelfth of the calculated amount.

    c. Payment Form: Benefits are paid as a monthly life annuity, with a guarantee that if the payments made do not exceed the member's accumulated contributions, determined as of the date of retirement, the balance will be paid in a lump-sum to the member's beneficiary. Optional forms of payment are available; see below.

12. Early Retirement

    a. Eligibility: A member may retire early after reaching age 55 with credit for ten years of service, or at any age after 30 years of service.

    b. Monthly Benefit: The normal retirement benefit (based on current years of service) multiplied by the early retirement factor below.

c. Early Retirement Factor:

Retirement	Factor
62 or later	1.0000
61	.9333
60	.8666
59	.8000
58	.7523
57	.7038
56	.6595
55	.6189
54	.5817
53	.5474
52	.5159
51	.4868
50	.4598
49	.4349
48	.4117
47	.3902

d. Payment Form: Same as for Normal Retirement above.

13. Disability Retirement

a. Eligibility: A member is eligible provided (i) he/she has credit for at least 10 years of service, and (ii) the disability is approved by the Medical Board, appointed by the Board of Trustees.

b. Monthly Benefit: Same as for Normal Retirement above (based on current service).

c. Payment Form: The disability benefit commences immediately upon the member's retirement. Benefits are reduced or cease entirely upon recovery or reemployment prior to age 60. Disability benefits are payable as a monthly life annuity, with a guarantee that if the payments made do not exceed the sum of the member's accumulated contributions as of the date of retirement, the balance will be paid in a lump-sum to the member's beneficiary. No other alternative forms of payment are permitted in the case of disability retirement.

14. Vested Termination Benefit

a. Eligibility: A member with at least 10 years of service who does not withdraw his/her contributions from the fund is eligible for a vested termination benefit.

b. Monthly Benefit: Same as for Normal Retirement above (based on current service). If benefits commence prior to age 62, they may be reduced as for Early Retirement above.

c. Payment Form: Benefits commence at age 62, or optionally as early as age 55. The form of payment is the same as for Normal Retirement above.

15. Withdrawal (Refund) Benefit

a. Eligibility: All members leaving covered employment with less than 10 years of service for a reason other than the member's death. Optionally, members eligible for other benefits may withdraw their contributions in lieu of the regular benefits due.

b. Benefit: The member who withdraws receives a lump-sum payment of his/her employee contributions, plus a portion of the interest credited by the System on these contributions. Interest is credited at an annual rate of 8%. The portion of the interest paid on termination depends on the member's years of service as follows:

Years of Service	Percent of Interest Refunded
0-6	0%
7-15	50%
16-21	60%
22-25	75%
26 or more	90%

16. Death in Service

a. Eligibility: Death must have occurred while an active member

b. Benefit: Upon the death of an active member, a refund of the member's contributions and 100% of the interest credited is paid. In addition, a lump sum of $18,000 will be paid. If the member is eligible for retirement (early or normal) at the time of death, and the member is married, the spouse may elect to receive a monthly life annuity equal to the retirement benefit for which the member was eligible, reduced as though the member had elected to receive benefits under Option 2 (see below). This annuity is paid in lieu of both (i) the $18,000 lump-sum death benefit and (ii) the refund of contributions. Only a refund is available to persons becoming members after June 30, 1992.

17. Optional Forms of Payment: There are optional forms of payment available on an actuarially equivalent basis, as follows:

a. Option 1 - A life annuity with a guaranteed refund of the member's contributions and interest, less a monthly adjustment for benefits paid.

b. Option 2 - A joint life annuity payable while both the member and the joint annuitant are alive; and if the member dies before the joint annuitant, continuing without change to the joint annuitant; or if the joint annuitant dies before the member, "popping-up" to the original life annuity amount and continuing for the life of the member.

c. Option 3 - A joint life annuity payable while both the member and the joint annuitant are alive; and if the member dies before the joint annuitant, continuing at 50% of this amount for the joint annuitant's lifetime; or if the joint annuitant dies before the member, "popping-up" to the original life annuity amount and continuing for the life of the member.

d. Option 4 - A life annuity with a guarantee that if the member dies before 120 payments (10 years) have been made, the payments will be continued to the member's beneficiary for the balance of the ten-year period.

Actuarial equivalence is based on tables adopted by the Board of Trustees.

18. Special Retirees: This is a group of retirees who have been granted a special $150 per month benefit although they did not fulfill the requirements for service retirement. With cost of living increases, the special retirees now average $180 per month.

19. Supplemental Medical Insurance

a. Eligibility: All retired members (including service retirees and disabled retirees but excluding the special retirees and spouses or beneficiaries) are eligible for a supplemental medical insurance payment.

b. Monthly Benefit: Eligible members receive the smaller of (i) a Medicare supplement benefit, if eligible, or (ii) an amount between $100 and $105 per month, depending on service and Final Average Compensation.

c. Payment Form: Benefits are payable as a life annuity on behalf of the retired member to (i) the Oklahoma Employees' Group Insurance plan, if the member has health coverage under this plan, or (ii) to the member's former employer, if the member retains health coverage under a plan maintained by the former employer.

20. Post-retirement Death Benefit

a. Eligibility: All retired members (including service retirees and disabled retirees but excluding the special retirees and spouses or beneficiaries) are eligible for a post-retirement death benefit.

b. Benefit: A lump-sum payment of $5,000.

21. Cost-of-living Increase: From time to time, the System has been amended to grant certain post-retirement benefit increases. However, the System has no automatic cost-of-living increase features.

History of Major Legislative Changes

A. 1990 Legislative Session

1. An ad hoc benefit increase was granted to retirees and beneficiaries who had been receiving benefits for at least one year. Special retirees were not granted this increase. The increase was determined by adding an amount to the Final Average Compensation for the member, and then redetermining the benefit due. For classified members, the amount added was $950, while for non-classified members, the amount added was $475. In all cases, Final Average Compensation was capped at $40,000.

2. The local employer contribution rate was increased from 1.0% of covered compensation in accordance with the following schedule:

Year Beginning July 1	Local Employer Contribution Rate
(1)	(2)
1990	1.0%
1991	1.5%
1992	2.0%
1993	2.5%

B. 1991 Legislative Session

No changes.

C. 1992 Legislative Session

SB 568 made the following changes:

- Increased employer rates (grading from 7% for 1992/1993 to 18% for 2004/2005) and changed State contributions to offset for employer contributions.
- Eliminated the salary cap effective July 1, 1995.
- Changed the member contribution rate to 7% (after July 1, 1997, phased in prior to that date).
- Changed the FAC averaging period to five years for new members.

- Eliminated the $18,000 death benefit (and the optional survivor annuity) for new members.

- Changed the formula to cap FAC with the member's pay cap for service prior to July 1, 1995.

- Changed the Rule of 80 to the Rule of 90 for new members.

D. 1993 Legislative Session

SB 535 set forth a schedule which reduces the maximum payment for supplemental medical insurance from $75/month to an amount between $70 and $75 per month, depending on service and Final Average Compensation.

E. 1994 Legislative Session

1. HB 2228 provided for an ad hoc COLA payable to members receiving benefits. The average increase is about 2.5%.

2. SB 768 changed the System's joint options to "pop-up" options. This change was made for both current and future retirees. Under a pop-up option, if the joint annuitant predeceases the member, the member's benefit is increased to the amount it would have been if the member had elected a life only annuity.

3. SB 767 provided for the transfers of service credit between this System and the Oklahoma Public Employees Retirement System.

4. SB 615 provides that the local employer's contribution rate shall not be less than the local employer's contribution rate for the prior year.

F. 1995 Legislative Session

SB 527 modified the provisions affecting members employed in higher education who became members prior to July 1, 1995. For these members, the $40,000 and $25,000 pay caps were left in place for two additional years, but were indexed to $44,000 and $27,500 for 1995-96 and to $48,000 and $30,000 for 1996-97. The member contribution rate for these members was set to 6.0% for 1995-96 and 6.5% for 1996-97. The benefit provisions were also modified so that only pay up to the maximum would be recognized for these years. After June 30, 1997, these members will contribute 7% of total pay like all other members. In addition, SB 527 modified the SB 568 employer contribution rate schedule. The new employer rates are 50 basis points lower in each year until the rate reaches 18.00%.

G. *1996 Legislative Session*

SB 832 modified the provisions relating to (i) member contributions, (ii) maximum compensation, and (iii) the benefit formula, for members employed in higher education. Beginning July 1, 1995, all members will contribute on all pay, except for members employed by a comprehensive university who became a member before July 1, 1995, whose recognized compensation is limited to

	For members who elected the $25,000 limit prior to June 30, 1995	For all other members
1996-97	$32,500	$49,000
1997-98	37,500	54,000
1998-99	42,500	59,000
1999-00	47,500	64,000
2000-01	52,500	69,000
thereafter	no limit	no limit

Employer contributions will be based on the same compensation as member contributions. In 1996-98, member contributions will be 6.5% of pay up to $25,000 plus 7% of pay in excess of $25,000, up to the maximum recognized compensation. The benefit formula was also adjusted so that for service earned between July 1, 1995 and June 30, 2001, members in higher education have their benefits adjusted for the compensation limits.

H. *1997 Legislative Session*

The post-retirement death benefit was increased from $4,000 to $5,000.

I. *1998 Legislative Session*

1. An ad hoc benefit increase was granted to retirees and beneficiaries who had been receiving benefits for at least one year. The increase was determined by adding an amount to the Final Average Compensation for the member, and then redetermining the benefit due. For classified members, the amount added was $1,400, while for non-classified members, the amount added was $700. Special retirees received a 5.4% increase.

2. The funding mechanism was changed, eliminating the state's contribution of 78% of its Gross Production Tax receipts after the 1999 fiscal year and substituting a contribution based on a percentage of general revenue available for appropriation (95% of general revenue). The percentage is 3.25% for the fiscal year ending June 30, 2000, and 3.50% thereafter. The local employer's contribution rates were revised for years after the 1999 fiscal year as follows:

Year	Employer Rate
1999/2000	4.80%
2000/2001	5.80%
2001/2002	6.80%
Thereafter	7.05%

J. 1999 Legislative Session

1. The pay caps applicable to certain members employed by one of the comprehensive universities were extended to FY 2007. The cap in effect for FY 1999 was left unchanged for FY 2000, and then will be increased $5,000 each year thereafter. This change affects both contributions and benefit calculations for these members.

2. The state's funding mechanism was changed again. Now the state's annual contribution will be 3.54% of certain specified sales and income tax revenues. This amount is subject to a $136.0 million maximum contribution for FY 2000 only.

K. 2000 Legislative Session

1. An ad hoc benefit increase was granted to retirees and beneficiaries who had been receiving benefits for at least one year. The increase was determined by adding an amount to the Final Average Compensation for the member, and then redetermining the benefit due. For classified members, the amount added was $500, while for non-classified members, the amount added was $250. Special retirees received a 1.8% increase.

2. SB 994 set forth a schedule which increases the maximum payment for supplemental medical insurance by $30/month from an amount between $70 and $75 per month to an amount between $100 and $105 per month, depending on service and Final Average Compensation.

L. 2001 Legislative Session

1. No changes.

M. 2002 Legislative Session

1. An ad hoc benefit increase was granted to retirees and beneficiaries, beginning July 1, 2002, if they had been receiving benefits for at least one year. Retirees were given a 3% increase if they had less than 30 years of credited service and a 4% increase if they had 30 or more years of credited service. Special retirees received a 3% increase.

2. The State's contribution is equal to a percentage of the State's revenue from certain sales and income taxes. The percentage is currently 3.54%, but a bill was passed to increase the percentage over the next five years to 5.00%, according the this schedule.

FY 2003	3.54%
FY 2004	3.54%
FY 2005	3.75%
FY 2006	4.00%
FY 2007	4.50%
FY 2008	5.00%

Summary of Actuarial Assumptions and Methods
(Adopted Effective June 30, 2001)

I. *Valuation Date*

The valuation date is June 30th of each plan year. This is the date as of which the actuarial present value of future benefits and the actuarial value of assets are determined.

II. *Actuarial Cost Method*

Because the employer contribution rate is set by statute, the actuarial valuation is used to determine the funding period--the number of years required to amortize the Unfunded Actuarial Accrued Liability (UAAL). It is also used to calculate the Annual Required Contribution (ARC) as defined by GASB 25.

The actuarial valuation uses the Entry Age actuarial cost method. Under this method, a normal cost rate is first determined. This is the contribution rate (level as a percentage of pay) required to provide the benefits of the average new member. The normal cost rate consists of two pieces: (i) the member's own contribution rate, and (ii) a portion of the employer contribution rate. This second piece is called the employer normal cost rate.

The total normal cost is determined by dividing the present value of future benefits for a hypothetical group of new members (based on actual new entrants during the 1999 fiscal year) by the present value of their future pay. In calculating the benefits for this group, all changes in provisions or member contribution rates scheduled to occur in the future are assumed to already be in effect.

Next, the UAAL is determined. This is the liability for future benefits which is in excess of (i) the actuarial value of assets, and (ii) the present value of future normal costs. The employer contribution that is not used for the employer normal cost is applied to amortize the UAAL.

The funding period is calculated as the number of years required to fully amortize the UAAL, assuming that the System's payroll increases at the payroll growth rate and the State's contribution increases at the State's revenue growth rate. Both employer and member contributions are assumed to be made monthly.

The Entry Age actuarial cost method is an "immediate gain" method (i.e., experience gains and losses are separately identified as part of the UAAL). However, they are amortized over the same period applied to all other components of the UAAL.

The actuarial valuation also determines a 40-year funding cost as required by Section 17-106. This is the dollar contribution required to pay the normal cost and amortize the UAAL over 40 years in equal installments. While this amount is not required to be paid under the statutes, it is reported as the Annual Required Contribution (ARC) under GASB 25. The 40-year period applies to all components of the UAAL and is recalculated each year (open amortization method).

III. *Actuarial Value of Assets*

The actuarial value of assets is equal to the market value, adjusted for a five-year phase in of actual investment return in excess of expected investment return. The actual return is calculated net of investment and administrative expenses, and the expected investment return is equal to the assumed investment return rate multiplied by the prior year's market value of assets, adjusted for contributions, benefits paid, and refunds.

IV. *Actuarial Assumptions*

A. Economic Assumptions

1. Investment return: 8% per year, compounded annually, composed of an assumed 3.00% inflation rate and a 5.00% net real rate of return.

2. Salary increase rate: A merit/promotional component dependent on service, plus a 3% inflation component, plus a 1.25% productivity increase, as follows:

Years of Service	Merit/ Promotional Component	Total Salary Increase Rate
(1)	(2)	(3)
0	2.75%	7.00%
1	2.00%	6.25
2	1.50%	5.75
3	1.00%	5.25
4	1.00%	5.25
5	1.00%	5.25
6	0.75%	5.00
7	0.75%	5.00
8	0.75%	5.00
9	0.50%	4.75
10	0.50%	4.75
11	0.50%	4.75
12	0.50%	4.75
13	0.25%	4.50
14	0.25%	4.50
15 or more	0.00%	4.25

3. Payroll growth rate: In the amortization of the unfunded actuarial accrued liability, payroll is assumed to increase 3.5% per year. This increase rate has no allowance for future membership growth.

4. State revenue growth rate: In determining the funding period, the state's sales and income tax revenues are anticipated to grow at 3.5% per year.

5. Future ad hoc cost-of-living increases: Based on past experience, we assume that in future years, cost-of-living increases will be granted that will average 1% per year.

B. Demographic Assumptions

1. Mortality rates - after retirement or termination.

   a. Healthy males - 1994 Unisex Pension Mortality Table for males, set back two years.

   b. Healthy females - 1994 Unisex Pension Mortality Table for females, set back two years.

   c. Disabled males - PBGC Table Va for disabled males eligible for Social Security disability benefits.

   d. Disabled females - PBGC Table VIa for disabled females eligible for Social Security disability benefits.

   Sample rates are shown below:

	Expected Deaths per 100 Lives			
Age	Healthy Males	Healthy Females	Disabled Males	Disabled Females
(1)	(2)	(3)	(4)	(4)
40	0.10	0.06	2.82	2.09
45	0.15	0.09	3.22	2.24
50	0.23	0.13	3.83	2.57
55	0.39	0.21	4.82	2.95
60	0.68	0.36	6.03	3.31
65	1.23	0.72	6.78	3.70
70	2.14	1.26	7.39	4.11
75	3.35	1.97	8.42	4.92
80	5.40	3.41	11.28	7.46

2. Mortality rates - active members - Based on 1989 Experience Study, males and females separate. Sample rates are shown below:

	Expected Deaths per 100 Lives	
Age	Male Members	Female Members
(1)	(2)	(3)
25	.04	.02
30	.06	.04
35	.08	.06
40	.11	.08
45	.16	.11
50	.23	.16
55	.32	.23
60	.43	.32
65	.59	.43

3. Disability rates - Based on 1999 Experience Study, males and females separate. Sample rates are shown below:

	Expected Disabilities Occurring per 100 Lives	
Age	Male Members	Female Members
(1)	(2)	(3)
25	.06	.06
30	.06	.06
35	.06	.08
40	.09	.11
45	.21	.20
50	.32	.38
55	.36	.51
60	.27	.42
65	.08	.12

Disability rates are applied only for members with 10 or more years of service, since rates were developed based on exposure for this group.

4. Termination Rates - Separate male and female rates, based on both age and service, developed from the 1999 Experience Study. Rates reflect terminations for causes other than death, disability or retirement. Sample rates are shown below:

	Expected Terminations per 100 Lives (Male Members)				
	Years of Service				
Age	0	1	4	7	10 or more
(1)	(2)	(3)	(4)	(5)	(6)
25	27.27	21.13	8.25	6.26	3.66
30	26.66	18.89	8.21	5.58	3.17
35	27.75	19.04	7.79	5.12	2.71
40	31.50	20.20	7.12	4.82	2.30
45	35.05	21.43	6.49	4.75	1.94
50	37.48	22.58	6.29	5.02	1.62
55	38.50	23.77	7.02	5.80	1.28
60	39.65	25.17	9.08	7.18	1.02
65	40.44	26.81	12.61	9.18	.99

	Expected Terminations per 100 Lives (Female Members)				
	Years of Service				
Age	0	1	4	7	10 or more
(1)	(2)	(3)	(4)	(5)	(6)
25	26.81	19.23	10.27	7.96	5.96
30	24.40	17.31	8.85	6.49	4.33
35	26.56	17.50	7.49	5.40	3.11
40	29.62	18.05	6.28	4.69	2.33
45	31.25	18.11	5.40	4.34	1.99
50	31.56	18.28	5.11	4.32	1.77
55	32.04	18.56	5.67	4.67	1.39
60	32.68	18.93	7.27	5.44	0.97
65	33.66	19.50	9.97	6.67	0.70

Termination rates are not applied to a member who is eligible for a retirement benefit (reduced or unreduced).

5. Retirement rates - Separate male and female rates, based on age, developed from the 1999 Experience Study. Sample rates are shown below:

	Expected Retirements per 100 Lives					
	Unreduced Retirement				Reduced Retirement	
	After First Year		In First Year			
Age	Male	Female	Male	Female	Male	Female
49	40	40	60	60	0	0
50	40	40	60	60	0	0
51	40	40	60	60	0	0
52	40	40	40	40	0	0
53	15	25	40	45	0	0
54	15	25	30	50	0	0
55	15	25	30	52	1	2
56	15	25	30	54	1	2
57	15	25	30	56	2	2
58	15	25	40	52	2	2
59	15	25	40	42	3	2
60	15	25	40	40	4	5
61	25	35	40	40	4	5
62	50	50	50	50		
63	25	25	25	25		
64	25	25	25	25		
65	50	55	50	55		
66	30	30	30	30		
67	30	30	30	30		
68	30	30	30	30		
69	30	30	30	30		
70	100	100	100	100		

C. Other Assumptions

1. Percent married: 80% of employees are assumed to be married.

2. Age difference: Male members are assumed to be three years older than their spouses, and female members are assumed to be three years younger than their spouses.

3. Percent electing annuity on death (when eligible): All of the spouses of married participants who die after becoming eligible for a retirement benefit are assumed to elect an annuity, in lieu of the $18,000 lump sum and refund, if this benefit is available.

4. Percent electing deferred termination benefit: vested terminating members are assumed to elect a refund or a deferred benefit, whichever is more valuable at the time of termination.

5. Assumed age for commencement of deferred benefits: Members electing to receive a deferred benefit are assumed to commence receipt at age 62.

6. Administrative expenses: The assumed investment return rate represents the anticipated net return after payment of all investment and administrative expenses.

7. Supplemental medical insurance: All members, whether currently active, inactive, or retired, are assumed to receive the supplemental insurance benefit.

8. Reemployment, purchase of service, transfers: No recognition is made of (i) future member reimbursements upon reemployment, (ii) future purchase of additional service, or (iii) special transfer provisions.

V. Participant Data

Participant data was supplied on an electronic file for (i) active members, (ii) inactive vested members who are entitled to a future deferred benefit, (iii) inactive nonvested members who are entitled to a refund of their employee contributions, and in some cases a portion of the accumulated interest, and (iv) members and beneficiaries receiving benefits.

The data for active and inactive, non-retired members included birthdate, sex, years of service, a classified/non-classified status code, salary, employee contributions and accumulated interest on employee contributions. The data also included a code to indicate whether the employee had elected to make contributions on salary above $25,000, and a code indicating the type of employer (comprehensive university, other college or university, or other employer). For retired members and beneficiaries, the data included date of birth, sex, spouse's date of birth (where applicable), amount of monthly benefit, date of retirement, and a form of payment code.

Salary supplied for the current year was based on the earnings for the October preceding the valuation date. This salary was adjusted by the salary increase rate for one year, and limited by the maximum pay where appropriate.

Assumptions were made to correct for missing, bad, or inconsistent data. These had no material impact on the results presented.

Some inactive, nonvested employees who are entitled to a refund are not included in the data, but a liability for their refund is included instead in the Suspense Fund, which is included in the liability.

VI. Dates of Adoption of Assumptions and Methods

Generally, actuarial assumptions and methods were developed from the 1999 experience study, and were adopted by the Board of Trustees in May 2001 and first reflected in the June 30, 2001 actuarial valuation. The adopted assumptions were recommended by the actuary. Some assumptions were left unchanged from the prior experience study in 1995, including female mortality for disabled retirees, the investment return rate, and active member mortality for males and females.

Addendum to June 30, 2002 Actuarial Valuation

Certification

We have prepared an actuarial valuation of the Oklahoma Teachers' Retirement System as of June 30, 2002, for the plan year ending June 30, 2003. The results of the valuation are set forth in this report, which reflects the provisions of the System as amended and effective on June 30, 2002.

The valuation is based on employee and financial data which were provided by the Oklahoma Teachers' Retirement System and the independent auditor, respectively, and which are summarized in this report.

The results in this Addendum have been prepared for the sole purpose of meeting the Retirement Board's requirement to submit this information to the Oklahoma State Pension Commission, based on the following prescribed assumptions (70 O.S. 2001, Section 17-106.1, Section H):

Interest rate: 7.5%
COLA assumption: 2.0%
Mortality: RP 2000 Generational Mortality Tables (active members, healthy annuitants, and disabled annuitants)
Amortization period: 30 years, open period
Sources of all contributions and revenues, including dedicated tax fee revenue and federal monies

All other assumptions, methodologies, and plan provisions used are consistent with those used in the June 30, 2002 valuation.

The results shown in this Addendum are not consistent with those in the June 30, 2002 valuation. The June 30, 2002 valuation results were determined in accordance with generally accepted actuarial principles and procedures, and are in compliance with the Actuarial Standards of Board Actuarial Standard of Practice No. 27-Selection of Economic Assumptions for Measuring Pension Obligations. The results shown in this Addendum are not based on the assumptions and methodologies adopted by the Retirement Board. For those results, see the June 30, 2002 actuarial valuation.

We are available to answer any questions on the material contained in the report, or to provide explanations or further details as may be appropriate.

J. Christian Conradi

J. Christian Conradi, A.S.A., M.A.A.A., E.A. October 23, 2002

W. Michael Carter

W. Michael Carter, F.S.A., M.A.A.A., E. A. October 23, 2002

Summary of Valuation Results Under Prescribed Assumptions

This supplemental report has been prepared by Gabriel, Roeder, Smith & Company for the Oklahoma Teachers' Retirement System to present the results of a valuation of the Oklahoma Teachers' Retirement System as of June 30, 2002, based on the prescribed assumptions under 70 O.S. 2001, Section 17-106.1, Section H of current State Statutes and regulations issued thereunder.

A summary of principal valuation results from the current valuation and the prior valuation.

	Actuarial Valuation as of		Change Between Years	
	July 1, 2002	July 1, 2001	Amount	Percent
Summary of Costs				
Required State Contribution for Current Year under Prescribed Assumptions	$552,732,756	$526,492,693	$26,240,063	4.98%
Actual State Contribution Received in Prior Year	$141,057,868	$140,925,355	$ 132,513	0.09%
Funded Status				
Actuarial Accrued Liability	$13,796,461,768	$13,019,328,253	$777,133,515	5.97%
Actuarial Value of Assets	$ 6,310,930,799	$ 5,959,008,704	$351,922,095	5.91%
Unfunded Actuarial Accrued Liability	$ 7,485,530,969	$ 7,060,319,549	$425,211,420	6.02%
Market Value of Assets and Additional Liabilities				
Market Value of Assets	$ 5,417,892,079	$ 5,731,753,345	$(313,861,266)	(5.48)%
Present Value of Projected System Benefits	$16,987,619,495	$16,156,900,729	$ 830,718,766	5.14%

Summary of Contribution Requirements	Actuarial Valuation as of				% of Change
	July 1, 2002		July 1, 2001		
	Amount	% of Active Covered Comp.	Amount	% of Active Covered Comp.	
1. Payroll					
a. Supplied by System	$3,047,149,510		$2,990,541,250		1.89%
b. Adjusted for 1-year's pay increase	$3,187,766,000		$3,130,642,000		1.82%
c. Adjusted for 1-year's pay increase with pay caps	$3,121,937,000		$3,060,242,000		2.02%
2. Total Normal Cost Mid-Year	$ 391,490,900	12.54%	$ 383,754,347	12.54%	2.02%
3. Unfunded Actuarial Accrued Liability	$7,485,530,969		$7,060,319,549		6.02%
4. Amortization of Unfunded Actuarial Accrued Liability over 30 years from July 1, 2002	$ 613,012,005	19.64%	$ 578,190,200	18.89%	6.02%
5. Total Required Contribution under Prescribed Assumptions (2 + 4)	$1,004,502,905	32.18%	$ 961,944,547	31.43%	4.42%
6. Estimated Employee Contribution (7% x 1c)	$ 218,535,590	7.00%	$ 214,216,940	7.00%	2.02%
7. Estimated local employer and Federal contributions					
a. Local employees (7.05%)	$ 220,096,559	7.05%	$ 208,096,456	6.80%	5.77%
b. Federal	13,138,000	0.42%	$ 13,138,458	0.43%	0.00%
c. Total	$ 233,234,559	7.47%	$ 221,234,914	7.23%	5.42%
8. Required State Contribution to amortize Unfunded Actuarial Accrued Liability over 30 years from July 1, 2002 (5 – 6 – 7c)	$ 552,732,756	17.70%	$ 526,492,693	17.20%	4.98%
9. Previous year's actual State Contribution	$ 141,057,868	4.61%[1]	$ 140,925,355	5.03%	0.09%
10. Funding Period	Not Sufficient to Amortize UAAL		Not Sufficient to Amortize UAAL		N/A

[1] Percent of previous years' annual compensation for active members.

Unfunded Actuarial Accrued Liability

The actuarial accrued liability is the present value of projected system benefits allocated to past service by the actuarial funding method being used.

	Total System	
	July 1, 2002	July 1, 2001
1. Actuarial Present Value of Benefits		
a. Active Members	$ 10,300,108,000	$ 10,042,066,000
b. Inactive Members	203,994,595	191,258,429
c. Retirees and beneficiaries	6,483,516,900	5,923,576,300
d. Total	$ 16,987,619,495	$ 16,156,900,729
2. Actuarial Present Value of Future Normal Costs	$ 3,191,157,727	$ 3,137,572,476
3. Total Actuarial Accrued Liability (1d - 2)	$ 13,796,461,768	$ 13,019,328,253
4. Actuarial Value of Assets	$ 6,310,930,799	$ 5,959,008,704
5. Unfunded Actuarial Accrued Liability (3 - 4, not less than $0)	**$ 7,485,530,969**	**$ 7,060,319,549**

Normal Cost

The components of normal cost under the System's funding method are:

Component	July 1, 2002	July 1, 2001
Retirement Benefits	$ 300,018,146	$ 294,089,256
Withdrawal Benefits	7,804,843	7,650,605
Refunds	56,819,253	55,696,404
Supplemental Medical Insurance	12,487,748	12,240,968
Death Benefits	936,581	918,073
Disability Benefits	13,424,329	13,159,041
Total Normal Cost (Mid-year)	**$ 391,490,900**	**$ 383,754,347**
Annual Covered Payroll (with pay caps)	$ 3,121,937,000	$ 3,060,242,000
Normal Cost Rate At Mid-year	12.54%	12.54%

Actuarial Assumptions

This section presents and describes the actuarial assumptions used for this supplemental valuation. The census of members, market and actuarial value of assets, actuarial basis and provisions of the Plan are the same as described elsewhere in this valuation report. The valuation is based on the premise that the Plan will continue in existence.

Economic Assumptions

1. Investment Return (Prescribed) — 7.5%, net of investment and administrative expenses, per annum, compound annually.

2. Earnings Progression — Sample rates below:

Years of Service	Merit/ Promotional Component	Total Salary Increase Rate
(1)	(2)	(3)
0	2.75%	7.00%
1	2.00%	6.25
2	1.50%	5.75
3	1.00%	5.25
4	1.00%	5.25
5	1.00%	5.25
6	0.75%	5.00
7	0.75%	5.00
8	0.75%	5.00
9	0.50%	4.75
10	0.50%	4.75
11	0.50%	4.75
12	0.50%	4.75
13	0.25%	4.50
14	0.25%	4.50
15 or more	0.00%	4.25

3. Payroll growth rate: In the amortization of the unfunded actuarial accrued liability, payroll is assumed to increase 3.5% per year. This increase rate has no allowance for future membership growth.

4. State revenue growth rate: In determining the funding period, the state's sales and income tax revenues are anticipated to grow at 3.5% per year.

5. Future ad hoc cost-of-living increases: Based on past experience, we assume that in future years, cost-of-living increases will be granted that will average 2% per year.

Demographic Assumptions

1. Retirement rate - Sample rates are shown below:

	Expected Retirements per 100 Lives					
	Unreduced Retirement				Reduced Retirement	
	After First Year		In First Year			
Age	Male	Female	Male	Female	Male	Female
49	40	40	60	60	0	0
50	40	40	60	60	0	0
51	40	40	60	60	0	0
52	40	40	40	40	0	0
53	15	25	40	45	0	0
54	15	25	30	50	0	0
55	15	25	30	52	1	2
56	15	25	30	54	1	2
57	15	25	30	56	2	2
58	15	25	40	52	2	2
59	15	25	40	42	3	2
60	15	25	40	40	4	5
61	25	35	40	40	4	5
62	50	50	50	50		
63	25	25	25	25		
64	25	25	25	25		
65	50	55	50	55		
66	30	30	30	30		
67	30	30	30	30		
68	30	30	30	30		
69	30	30	30	30		
70	100	100	100	100		

2. Mortality rates - Active members – RP-2000 Generational Mortality Tables for active employees, males and females separate, projected with Scale AA.

Retirees (non-disabled) and beneficiaries – RP-2000 Generational Mortality Tables for healthy annuitants, males and females separate, projected with Scale AA. This table was extended to ages below 50 by assuming that the ratio of the mortality rate at each age below 50 to the rate at age 50 is the same as the comparable ratios determined using the valuation mortality table (UP-94, males and females, set back two years each).

Disabled retirees – RP-2000 Generational Mortality Tables for disabled annuitants, males and females separate, projected with Scale AA

3. Disability rates - Sample rates are shown below:

	Expected Disabilities Occurring per 100 Lives	
Age	Male Members	Female Members
(1)	(2)	(3)
25	.06	.06
30	.06	.06
35	.06	.08
40	.09	.11
45	.21	.20
50	.32	.38
55	.36	.51
60	.27	.42
65	.08	.12

Disability rates are applied only for members with 10 or more years of service, since rates were developed based on exposure for this group.

4. Withdrawal Rates - Sample rates are shown below:

	Expected Terminations per 100 Lives (Male Members)				
	Years of Service				
Age	0	1	4	7	10 or more
(1)	(2)	(3)	(4)	(5)	(6)
25	27.27	21.13	8.25	6.26	3.66
30	26.66	18.89	8.21	5.58	3.17
35	27.75	19.04	7.79	5.12	2.71
40	31.50	20.20	7.12	4.82	2.30
45	35.05	21.43	6.49	4.75	1.94
50	37.48	22.58	6.29	5.02	1.62
55	38.50	23.77	7.02	5.80	1.28
60	39.65	25.17	9.08	7.18	1.02
65	40.44	26.81	12.61	9.18	.99

	Expected Terminations per 100 Lives (Female Members) Years of Service				
Age	0	1	4	7	10 or more
(1)	(2)	(3)	(4)	(5)	(6)
25	26.81	19.23	10.27	7.96	5.96
30	24.40	17.31	8.85	6.49	4.33
35	26.56	17.50	7.49	5.40	3.11
40	29.62	18.05	6.28	4.69	2.33
45	31.25	18.11	5.40	4.34	1.99
50	31.56	18.28	5.11	4.32	1.77
55	32.04	18.56	5.67	4.67	1.39
60	32.68	18.93	7.27	5.44	0.97
65	33.66	19.50	9.97	6.67	0.70

Termination rates are not applied to a member who is eligible for a retirement benefit (reduced or unreduced).

6. Marital Status – Percentage married: 80% of employees are assumed to be married.
   Age Difference: Males are assumed to be three (3) years older than females.

Other Assumptions

1. Percent electing annuity on death (when eligible): All of the spouses of married participants who die after becoming eligible for a retirement benefit are assumed to elect an annuity, in lieu of the $18,000 lump sum and refund, if this benefit is available.

2. Percent electing deferred termination benefit: vested terminating members are assumed to elect a refund or a deferred benefit, whichever is more valuable at the time of termination.

3. Assumed age for commencement of deferred benefits: Members electing to receive a deferred benefit are assumed to commence receipt at age 62.

4. Administrative expenses: The assumed investment return rate represents the anticipated net return after payment of all investment and administrative expenses.

5. Supplemental medical insurance: All members, whether currently active, inactive, or retired, are assumed to receive the supplemental insurance benefit.

6. Reemployment, purchase of service, transfers: No recognition is made of (i) future member reimbursements upon reemployment, (ii) future purchase of additional service, or (iii) special transfer provisions.