

**North Dakota Teachers' Fund
For Retirement**

**ACTUARIAL VALUATION
July 1, 2005**



GABRIEL, ROEDER, SMITH & COMPANY

Consultants & Actuaries

5605 N. MacArthur Blvd. • Suite 870 • Irving, Texas 75038-2631 • 469-524-0000 • fax 469-524-0003

October 17, 2005

Board of Trustees
North Dakota Teachers' Fund for Retirement
1930 Burnt Boat Drive
P. O. Box 7100
Bismarck, ND 58507-7100

Subject: Actuarial Valuation as of July 1, 2005

We certify that the information contained in this report is accurate and fairly presents the actuarial position of the North Dakota Teachers' Fund for Retirement (TFFR) as of July 1, 2005.

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 also comply with the North Dakota Century Code, and, where applicable, the Internal Revenue Code, ERISA, and the Statements of the Governmental Accounting Standards Board. The undersigned are independent actuaries. All three are Enrolled Actuaries and Members of the American Academy of Actuaries and are experienced in performing valuations for large public retirement systems. All three meet the Qualification Standards of the American Academy of Actuaries.

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 TFFR, and to analyze changes in TFFR's condition. In addition, the report provides information required by TFFR 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 July 1 of each year, the first day of TFFR's plan and fiscal year.

Financing Objectives

The member and employer contribution rates are established by statute, and both are currently set at 7.75%. The rates are intended to be sufficient to pay TFFR's normal cost and to amortize TFFR's unfunded actuarial accrued liability (UAAL) over a period of 30 years from the valuation date. The amortization period used in the previous valuation was 20 years, but it was increased by the Board effective for this valuation. A thirty-year period is the maximum amortization period allowed by GASB 25 in computing the Annual Required Contribution (ARC). The thirty-year period is in common use for public-sector plans and is considered reasonable by the actuary.

Progress toward Realization of Financing Objectives

In order to determine the adequacy of the 7.75% statutory employer contribution rate, it is compared to the GASB 25 Annual Required Contribution (ARC). The ARC is equal to the sum of (a) the employer normal cost rate, and (b) the level percentage of pay required to amortize the UAAL over a 30-year period. For this calculation, payroll is assumed to increase 2.00% per annum. As of July 1, 2005, the ARC is 12.12%. This is greater than the 7.75% rate currently required by law. The shortfall (the negative margin) between the rate mandated by law and the rate necessary to fund the UAAL in 30 years is -4.37%.

The GASB ARC increased from 11.34% last year. The increase was due principally to two factors:

- the recognition of another 20% of the actuarial investment losses from FY 2001, FY 2002 and FY 2003 (offset by 20% of the actuarial investment gains from FY 2004 and FY 2005)
- the changes made to the actuarial assumptions, discussed below, offset by the effect of the changes in the amortization procedures

The increase in the ARC would have been even larger if not for the 13.3% market asset return in FY 2005.

If the 7.75% employer contribution rate remains unchanged, and all actuarial assumptions are exactly realized, including an 8.00% investment return on the actuarial value of assets, then the UAAL will never be amortized. I.e., TFFR has an infinite funding period.

The funded ratio (the ratio of the actuarial value of assets to the actuarial accrued liability) decreased from last year. The funded ratio at July 1, 2004 was 80.3%, while it is 74.8% as of July 1, 2005. This decrease is due to the two factors cited above. Based on market values rather than actuarial values of assets, the funded ratio improved to 77.9% from 76.4% last year.

Reporting Consequences

TFFR is required to report in its Comprehensive Annual Financial Report (CAFR) for the current fiscal year ending June 30, 2005 that actual contributions received in FY 2005 were less than the ARC. The 7.75% statutory rate was 68.3% of the 11.34% ARC determined by the last valuation. Next year, the CAFR for FY 2006 will show that the 7.75% statutory rate was only 63.9% of the 12.12% ARC for FY 2006. There are no other accounting consequences for the state or the other school districts that sponsor TFFR, since it is a cost-sharing, multiple-employer retirement system.

Benefit Provisions

The actuarial valuation reflects the benefit and contribution provisions set forth in the North Dakota Century Code. The legislature made no material changes to these provisions since the last actuarial valuation.

Assumptions and Methods

Actuarial assumptions and methods are set by the Board of Trustees, based upon recommendations made by the plan's actuary. On March 10, 2005, the Board adopted new assumptions and new amortization procedures, effective for this valuation. These new assumptions and procedures were recommended by the actuary, following an analysis of plan experience for the five-year period ending June 30, 2004. We believe the assumptions are internally consistent and are reasonable, based on the actual experience of TFFR. These actuarial assumptions and methods comply with the parameters for disclosure in GASB 25.

The results of the actuarial valuation are dependent on the actuarial assumptions used. Actual results can and almost certainly will differ, as actual experience deviates from the assumptions. Even seemingly minor changes in the assumptions can materially change the liabilities, calculated contribution rates and funding periods.

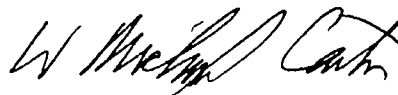
Data

Member data for retired, active, and inactive participants was supplied as of July 1, 2005, by the staff of the Retirement and Investment Office (RIO). 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 also supplied by the RIO staff.

Sincerely,
Gabriel, Roeder, Smith & Co.



J. Christian Conradi, ASA, MAAA, EA
Senior Consultant



W. Michael Carter, FSA, MAAA, EA
Senior Consultant



William B. Fornia, FSA, MAAA, EA
Senior Consultant

	<u>PAGE</u>
Section A – Executive Summary	1
Section B – Introduction	2
Section C – Funding Status	3
Section D – Analysis of Changes	5
Section E – GASB No. 25 Disclosure	6
Section F – Benefit Provisions	8
Section G – Actuarial Assumptions and Methods	9
Section H – Fund Assets	10
Section I – Membership Data	11
Section J – Tables	12

Executive Summary

Item	2005	2004
Membership		
• Number of		
- Active Members	9,801	9,826
- Retirees and Beneficiaries	5,586	5,373
- Inactive, Vested	1,377	1,346
- Inactive, Nonvested	168	175
- Total	16,932	16,720
• Payroll	\$386.6 million	\$376.5 million
Statutory contribution rates		
• Employer	7.75%	7.75%
• Member	7.75%	7.75%
Assets		
• Market value	\$1,530.2 million	\$1,374.7 million
• Actuarial value	1,469.7 million	1,445.6 million
• Return on market value	13.3%	18.9%
• Return on actuarial value	3.3%	1.9%
• Ratio - actuarial value to market value	96.0%	105.2%
• External cash flow %	-1.6%	-1.5%
Actuarial Information		
• Normal cost %	11.31%	10.29%
• Unfunded actuarial accrued liability (UAAL)	\$495.5 million	\$354.8 million
• Funded ratio	74.8%	80.3%
• Funding period	Infinite	Infinite
GASB 25 ARC		
• Amortization period	30 years	20 years
• Amortization method	Level % (2.00%)	Level dollar
• Calculated contribution rate	12.12%	11.34%
• Margin	-4.37%	-3.59%
Gains/(Losses)		
• Asset experience	\$(67.4) million	\$(87.8) million
• Liability experience	(5.8) million	(19.7) million
• Benefit changes	0.0 million	0.0 million
• Assumption/method changes	(63.3) million	N/A
• Total	\$(136.5) million	\$(107.5) million

Introduction

The results of the July 1, 2005 actuarial valuation of the North Dakota Teachers' Fund for Retirement are presented in this report.

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

Section C discusses the determination of the current funding requirements and funding periods. Section D analyzes the changes in (i) the unfunded actuarial accrued liability and (ii) the GASB Annual Required Contribution (ARC). This section also discusses the gains and losses resulting from differences between actual experience and the actuarial assumptions. Section E discusses the disclosure requirements of GASB No. 25.

Sections F through I discuss background information used in the preparation of this report--benefit provisions, actuarial assumptions and methods, financial information, and membership data.

All the tables referenced by the other sections appear in Section J.

Funding Status

Table 1 shows the development of the plan's liabilities and costs. Although the employer contribution rate is set at 7.75%, the Board has defined the GASB Annual Required Contribution (ARC) as the sum of (a) the employer normal cost, and (b) an amount necessary to amortize the unfunded actuarial accrued liability (UAAL) as a level percentage of payroll over a period of 30 years from the valuation date.

The calculation of the ARC involves the following steps:

- The actuarial present value of future benefits is determined for the present members, including retired members, beneficiaries, inactive members and active members. This amounts to \$2.336 billion. Table 3 shows the development of this total.
- The entry age normal funding method is used to allocate the actuarial present value of future benefits between that portion due for the current year (the normal cost), prior years (the actuarial accrued liability) and future years. Under the entry age normal cost method the current and future normal costs are determined as a level percentage of payroll. Table 4 shows an analysis of the normal cost. The amount needed to fund the current and future normal costs is 11.31% of payroll inclusive of member assessments. This is the total (member plus employer) contribution rate needed to pay for the average new member.
- A part of the normal cost is paid by the employee assessments of 7.75%, leaving 3.56% to be funded by the employers, i.e., the current year's employer normal cost is 3.56% of the valuation payroll. This is shown in Line 3 of Table 1.
- The actuarial accrued liability (the portion of the total liability attributed to prior years) is compared with the actuarial value of assets (See Section H). The difference is the unfunded actuarial accrued liability (UAAL), and this is amortized over 30 years assuming a 2.00% annual payroll growth rate. This adds \$35.0 million to the employer portion of the normal cost of \$14.6 million, for a total of \$49.5 million, and is equivalent to 12.12% of pay.

Another way of expressing this is that an employer contribution of 12.12% would be required to meet the 30-year funding schedule, determined as follows:

Employer normal cost	3.56%
Amortization payment	<u>8.56%</u>
Total	12.12%

The above calculations take the position that the 30-year funding period is fixed and the appropriate contribution is to be determined. The situation can be reversed by asking, if the current 7.75% employer rate is left in place, how long does it take to amortize the UAAL? As shown on Table 1, the current employer rate is not sufficient to amortize the UAAL over any period.

Analysis of Changes

Tables 2a and 2b show the impact of a variety of changes on both the UAAL and on the GASB ARC. Table 11 shows the detailed calculation of the asset gain/loss, while Table 12 shows the development of the liability gain/loss. The gains and losses are due to differences between actual experience and anticipated experience determined using the actuarial assumptions.

As shown on Table 2b, the UAAL increased from \$354.8 million to \$495.5 million, an increase of 140.7 million. This increase was principally due to the actuarial asset loss (\$67.4 million) and the change in actuarial assumptions (\$63.3 million). The \$4.2 million increase due to amortization payments arises because the member and employer contributions were not large enough to pay the normal cost and interest on the UAAL. Therefore, the Fund experienced negative amortization. There was also a small liability loss of \$5.8 million. This loss was determined based on the old actuarial assumptions, not the new ones adopted by the Board. I.e., the impact of the change in assumptions was measured after the measurement of the experience loss.

Table 2a shows the impact from these same changes on the GASB ARC, expressed as a percentage of payroll. The most significant items are the 163 basis point increase due to investment experience, the 249 basis point increase due to changes in the actuarial assumptions, and the 335 basis point decrease due to the revision of the GASB ARC amortization method—i.e., the change from a 20-year to a 30-year amortization period and the change from a level dollar to a level-percent-of-payroll amortization method.

GASB No. 25 Disclosure

Governmental Accounting Standards Board (GASB) Statement No. 25 governs reporting for government-sponsored retirement plans.

This report includes Tables 5a, 5b and 5c which show information required to be reported under GASB 25. Table 5a shows a history of funding progress: a comparison of actuarial assets with the actuarial accrued liability, and a comparison of the UAAL with plan compensation. Table 5b shows the Annual Required Contribution (ARC) as computed under GASB No. 25, and it shows what percent of this amount was actually received.

For TFFR, the ARC is now defined to be the sum of (a) the employer normal cost, and (b) the amount needed to amortize the UAAL as a level percentage of payroll over 30 years. If this amount is less than the statutory 7.75%, the statutory contribution rate is treated as the ARC. In prior years, the ARC was defined using a 20-year amortization with no payroll increase. The Board decided to redefine the ARC following the adoption of new actuarial assumptions in March 2005. However, this change first becomes effective for the July 1, 2005 actuarial valuation report and for determining the ARC for FY 2006. All of the amounts and rates shown on Table 5b are based on the prior policy.

Since the 7.75% statutory rate exceeded the ARC in each year through FY 2003, Table 5b shows that 100% of the ARC was made for each of these years. For FY 2004 and FY 2005, since the statutory rate was less than the ARC, the table shows that 86.7% and 68.3% of the ARC were made for FY 2004 and FY 2005 respectively ($7.75\% \div 8.94\%$ and $7.75\% \div 11.34\%$). When next year's financial report is prepared, this table will show that the contributions received for FY 2006 are only 63.9% of the ARC ($7.75\% \div 12.12\%$).

The dollar amounts of the ARC shown on Table 5b differs from the dollar amounts calculated in prior valuations, because they are adjusted for differences between expected and actual payroll in each fiscal year. This procedure is permitted under GASB 25; see Q&A 94 in the GASB 25 Implementation Guide. For FY 2005, employers contributed \$30,388,265, which represents 7.75% of actual covered payroll during the fiscal year. This implies actual payroll of \$392,106,645 ($\$30,388,265/0.0775$). The ARC for FY 2005 was calculated in the last valuation report as 11.34% of payroll. Therefore, the dollar ARC shown on Table 5b for FY 2005 is 11.34% of actual payroll of \$392,106,645, or \$44,471,740.

The auditor's notes should disclose the following events during the last six years which may affect the comparability of the trend information shown in Tables 5a and 5b: the changes in assumptions made at July 1, 2000 and at July 1, 2005, the change in the definition of the ARC made effective July 1, 2005, and the benefit improvements and multiplier increases made at July 1, 1999 and July 1, 2001. (See GASB No. 25, paragraph 40b.)

Benefit Provisions

Table 18 summarizes the provisions of TFFR used in this valuation. Table 19 is a historical record of prior legislative changes made since 1990. The actuarial valuation reflects the benefit and contribution provisions set forth in the North Dakota Century Code. No material legislation was adopted since the previous actuarial valuation.

This valuation reflects benefits promised to members by TFFR statutes. There are no ancillary benefits. Ancillary benefits are retirement-type benefits not required by TFFR statutes but which might be deemed a TFFR liability if continued beyond the availability of funding by the current funding source.

Actuarial Assumptions and Methods

In determining costs and liabilities, actuaries use assumptions about the future, such as rates of salary increase, probabilities of retirement, termination, death and disability, and an investment return assumption. TFFR's Board adopts the assumptions used, taking into account the actuary's recommendations. This report is based upon the assumptions and methods adopted on March 10, 2005, based upon an analysis of plan experience for the preceding five years. Changes were made to the salary increase, termination, retirement, and mortality rates. In addition, the GASB ARC was redefined.

The most significant assumptions are (i) the 8.00% assumed investment return rate, and (ii) the assumption regarding future salary increases, which is based on a table that varies by service and averages about 5.7%. All actuarial assumptions and methods used are summarized in Table 17.

In addition to the actuarial assumptions, the actuary also makes use of an actuarial funding method to allocate costs to particular years. In common with many public-sector plans, TFFR uses the entry age normal method. This method produces a relatively level pattern of funding over time, and thereby provides equity between various generations of taxpayers. We continue to believe this method is appropriate for TFFR.

Finally, TFFR's Board selects the amortization method and the amortization period used in determining the GASB ARC, to which the required 7.75% rate is compared. In determining the ARC, the UAAL is amortized in level-percentage-of-payroll payments with a 2.00% payroll growth rate over an open 30-year period. By an "open" amortization period, we mean that the 30-year amortization payments are redetermined each year based on a new 30-year period.

Fund Assets

TFFR assets are held in trust, and are co-mingled for investment purposes with those of other North Dakota sponsored trusts. Investment decisions lie with the State Investment Board rather than with the TFFR Board, although the TFFR Board sets the investment policy, including the asset allocation guidelines. Asset information used in this valuation has been provided by the Retirement and Investment Office (RIO) staff. Section J contains several tables which summarize, reconcile or analyze this information.

Table 7 presents a summary of the market value of assets held by the fund. About 80% of the assets are held in equities, real estate, and private equity. This has increased slightly from last year. Table 8 shows a reconciliation of the assets from the beginning of the prior year to the valuation date.

Tables 9a and 9b show the development of the Actuarial Value of Assets (AVA). An actuarial value is used in order to dampen some of the year-to-year fluctuations which would occur if the market value were used instead. The method used phases in differences between actual and expected earnings 20% per year. (Expected earnings are determined using market value and the 8.00% investment return assumption. Actual earnings are net of all investment and administrative expenses.)

Table 10 shows an estimate of the Fund's yield for the year. This is shown on (i) the market value of assets (reflecting all realized and unrealized gains and losses), and (ii) the actuarial value of assets. While the dollar-weighted market yield this year is about 13.3%, the yield on the actuarial value is 3.3%. The difference between these is due to the smoothing effect of the AVA.

Table 11 determines the asset gain or loss for the year, based on the difference between the actual fund yield and the assumed rate of 8%. The impact of this gain has already been discussed in Section D. Finally, Table 13 shows a history of cash flows to the trust.

Membership Data

Membership data was provided on electronic files sent by the RIO staff. Data for active members includes sex, birthdate, service, salary (for the prior fiscal year) and accumulated assessments. Data for inactive, nonretired members was similar, but also includes the members' unreduced benefit. For retired members, data includes status (service retiree, disabled retiree or beneficiary), sex, birthdate, pension amount, form of payment, beneficiary sex and birthdate if applicable, and date of retirement.

While not verifying the correctness of the data at the source, we performed various tests to ensure the internal consistency of the data and its overall reasonableness.

Membership statistics are summarized in Table 6a. Table 6b summarizes certain active member data, and the age/service distribution of active members is shown in Table 15. Tables 16a and 16b show the distribution of retirees by option and by benefit amount.

The number of active members decreased by 0.3% since last year, from 9,826 to 9,801. Note that normally the actual number of active members during the year will be somewhat higher than the valuation count, since the July 1 count excludes May and June retirees, but does not include new teachers joining the system for the next school year.

Total payroll increased 2.7% since last year. For all comparative purposes, payroll is the amount supplied by the RIO staff (i.e., the 2004-2005 member pay), annualized. However, this figure is increased by one year's pay increase to determine the member's rate of pay at July 1, 2005. Pay is assumed to change only at the beginning of a school/fiscal year.

Average pay increased by 2.9%, from \$38,321 to \$39,447. However, this includes the impact of replacing more highly-paid members who retire with new teachers. The average increase in salary for continuing members—members active in both this valuation and the preceding valuation—was 5.0%.

The average age of active members and their average service were unchanged since last year. They are 44.9 years and 14.7 years respectively.

Tables

Table Number	Content of Table	Page
1	Development of Employer Cost.....	13
2a	Analysis of Change in GASB ARC.....	14
2b	Analysis of Change in UAAL.....	15
3	Actuarial Present Value of Future Benefits.....	16
4	Analysis of Normal Cost.....	17
5a	Schedule of Funding Progress.....	18
5b	Schedule of Employer Contributions.....	19
5c	Notes to Required Supplementary Information.....	20
6a	Membership Data.....	21
6b	Historical Summary of Active Member Data.....	22
7	Plan Net Assets.....	23
8	Reconciliation of Plan Net Assets.....	24
9a	Determination of Excess Earnings to be Deferred.....	25
9b	Development of Actuarial Value of Assets.....	26
10a	Estimation of Yields.....	27
10b	History of Investment Return Rates.....	28
11	Investment Experience Gain or Loss.....	29
12	Total Experience Gain or Loss.....	30
13	History of Cash Flow.....	31
14a	Actuarial Balance Sheet.....	32
14b	Solvency Test.....	33
15	Distribution of Active Members by Age and Service.....	34
16a	Schedule of Retired Members by Type of Benefit.....	35
16b	Schedule of Retired Members by Monthly Benefit.....	36
17	Statement of Actuarial Methods and Assumptions.....	37
18	Summary of Benefit Provisions.....	43
19	Summary of Plan Changes.....	48

Development of Employer Cost

	<u>July 1, 2005</u> (1)	<u>July 1, 2004</u> (2)
1. Payroll		
a. Supplied by System	\$ 386,617,411	\$ 376,542,342
b. Adjusted for one year's pay increase	408,844,266	396,206,634
2. Present value of future pay	\$ 3,280,649,186	\$ 3,013,026,748
3. Normal cost rate (payable monthly)		
a. Total normal cost rate	11.31%	10.29%
b. Less: member assessment rate	<u>-7.75%</u>	<u>-7.75%</u>
c. Employer normal cost rate	3.56%	2.54%
4. Actuarial accrued liability for active members		
a. Present value of future benefits	\$ 1,468,480,644	\$ 1,310,542,826
b. Less: present value of future normal costs (Item 3a * Item 2)	<u>(371,041,423)</u>	<u>(310,040,452)</u>
c. Actuarial accrued liability	\$ 1,097,439,221	\$ 1,000,502,374
5. Total actuarial accrued liability for:		
a. Retirees and beneficiaries	\$ 820,800,623	\$ 755,180,933
b. Inactive members	46,955,107	44,680,411
c. Active members (Item 4c)	<u>1,097,439,221</u>	<u>1,000,502,374</u>
d. Total	\$ 1,965,194,951	\$ 1,800,363,718
6. Actuarial value of assets	\$ 1,469,739,346	\$ 1,445,594,633
7. Unfunded actuarial accrued liability (UAAL) (Item 5d - Item 6)	\$ 495,455,605	\$ 354,769,085
8. Funding period set by Board	30 years	20 years
9. Current employer contribution rate	7.75%	7.75%
10. GASB No. 25 Annual Required Contribution (ARC)		
a. Payment to amortize UAAL ¹	\$ 34,988,142	\$ 34,873,101
b. Employer normal cost (Item 3c * Item 1b)	<u>14,554,856</u>	<u>10,063,649</u>
c. Contribution requirement (a+b)	49,542,998	44,936,750
d. Contribution as percentage of payroll (10c/1b)	12.12%	11.34%
11. Funding period based on current employer contribution	Infinite	Infinite

¹ This is now based on an open 30-year amortization period, with the amortization amount determined as a level percentage of payroll. Last year the amortization amount was the level amount required to amortize the UAAL over an open 20-year period.

Analysis of Change in GASB ARC

Item (1)	July 1, 2005 (2)	July 1, 2004 (3)
1. Prior valuation	11.34%	8.94%
2. Increases/(decreases) due to:		
a. Open amortization	(0.19%)	(0.14%)
b. Growth in covered payroll	(0.23%)	(0.15%)
c. Employer contributions received at 7.75%, rather than 11.34% for FY2005 or 8.94% for FY2004	0.29%	0.02%
d. Liability experience	0.14%	0.49%
e. Investment experience	1.63%	2.18%
f. Assumption changes	2.49%	0.00%
g. Changes in amortization method	(3.35%)	0.00%
h. Legislative changes	0.00%	0.00%
i. Total	0.78%	2.40%
3. Current valuation (1. + 2.i.)	12.12%	11.34%
4. Statutory employer contribution rate	7.75%	7.75%
5. Margin available (4. - 3.)	(4.37%)	(3.59%)

Analysis of Change in UAAL

Item (1)	Unfunded Actuarial Accrued Liability (\$ in millions) as of	
	July 1, 2005 (2)	July 1, 2004 (3)
1. Prior valuation	\$ 354.8	\$ 251.9
2. Increases/(decreases) due to:		
a. Amortization payments	\$ 4.2	\$ (4.6)
b. Investment experience	67.4	87.8
c. Assumption changes	63.3	-
d. Liability experience	5.8	19.7
e. Changes in actuarial methods	-	-
f. Legislative changes	-	-
g. Total	\$ 140.7	\$ 102.9
3. Current valuation (1. + 2.g.)	\$ 495.5	\$ 354.8

Actuarial Present Value of Future Benefits

	July 1, 2005 (1)	July 1, 2004 (2)
1. Active members		
a. Retirement benefits	\$ 1,356,657,814	\$ 1,172,448,281
b. Deferred termination benefits and refunds	75,547,648	98,167,020
c. Death benefits	14,779,459	19,575,038
d. Disability benefits	21,495,723	20,352,487
e. Total	<u>\$ 1,468,480,644</u>	<u>\$ 1,310,542,826</u>
2. Retired members		
a. Service retirement	\$ 769,881,920	\$ 705,351,912
b. Disability retirement	7,424,868	7,441,090
c. Beneficiaries	43,493,835	42,387,931
d. Total	<u>\$ 820,800,623</u>	<u>\$ 755,180,933</u>
3. Inactive members		
a. Vested terminations	\$ 46,512,965	\$ 44,222,742
b. Nonvested terminations	442,142	457,669
c. Total	<u>\$ 46,955,107</u>	<u>\$ 44,680,411</u>
4. Total actuarial present value of future benefits	\$ 2,336,236,374	\$ 2,110,404,170

Analysis of Normal Cost

	<u>July 1, 2005</u> (1)	<u>July 1, 2004</u> (2)
1. Gross normal cost rate (payable monthly)		
a. Retirement benefits	8.72%	7.11%
b. Deferred termination benefits and refunds	2.09%	2.69%
c. Death benefits	0.17%	0.20%
d. Disability benefits	<u>0.33%</u>	<u>0.29%</u>
e. Total	11.31%	10.29%
2. Less: member assessment rate	<u>7.75%</u>	<u>7.75%</u>
3. Employer normal cost rate	3.56%	2.54%

Schedule of Funding Progress

Valuation Date	Actuarial Value of		Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL) (3) - (2)	Funded Ratio (2)/(3)	Annual Covered		UAAL as % of Payroll (4)/(6)
	Assets (AVA)	Liability (AAL)				Payroll	Payroll	
(1)	(2)	(3)	(4)	(5)	(6)	(7)		
July 1, 1996	\$733.3	\$851.6	\$118.3	86.1%	\$281.2	42.1%		
July 1, 1997	\$823.4	\$977.1	\$153.6	84.3%	\$294.1	52.2%		
July 1, 1998	\$928.0	\$1,033.0	\$105.0	89.8%	\$298.4	35.2%		
July 1, 1999	\$1,053.1	\$1,188.4	\$135.3	88.6%	\$314.6	43.0%		
July 1, 2000	\$1,308.5	\$1,287.9	(\$20.6)	101.6%	\$323.0	-6.4%		
July 1, 2001	\$1,414.7	\$1,467.7	\$53.0	96.4%	\$342.2	15.5%		
July 1, 2002	\$1,443.5	\$1,575.8	\$132.3	91.6%	\$348.1	38.0%		
July 1, 2003	\$1,438.4	\$1,690.3	\$251.9	85.1%	\$367.9	68.5%		
July 1, 2004	\$1,445.6	\$1,800.4	\$354.8	80.3%	\$376.5	94.2%		
July 1, 2005	\$1,469.7	\$1,965.2	\$495.5	74.8%	\$386.6	128.2%		

Note: Dollar amounts in millions

Schedule of Employer Contributions

Fiscal Year	GASB 25 Annual Required Contribution (ARC)		Actual Employer Contributions		Percentage of GASB ARC Contributed
	% of Payroll ¹	Amount ²	% of Payroll	Amount	[(5)/(3)]
(1)	(2)	(3)	(4)	(5)	(6)
1996	6.75%	\$18,988,538	6.75%	\$18,988,538	100.0%
1997	6.75%	\$19,693,130	6.75%	\$19,693,130	100.0%
1998	7.75%	\$23,326,328	7.75%	\$23,326,328	100.0%
1999	7.75%	\$24,257,091	7.75%	\$24,257,091	100.0%
2000	7.75%	\$25,527,734	7.75%	\$25,527,734	100.0%
2001	7.75%	\$26,289,206	7.75%	\$26,289,206	100.0%
2002	7.75%	\$27,243,542	7.75%	\$27,243,542	100.0%
2003	7.75%	\$28,850,725	7.75%	\$28,850,725	100.0%
2004	8.94%	\$34,186,080	7.75%	\$29,635,584	86.7%
2005	11.34%	\$44,471,740	7.75%	\$30,388,265	68.3%

¹ The GASB ARC for each fiscal year is based on the actuarial valuation as of the beginning of the year. Therefore, the FY 2005 ARC is based on the July 1, 2004 actuarial valuation. The ARC is defined as the contribution rate required to pay the employer normal cost and to amortize the UAAL over a 20-year period as a level dollar amount, but not less than the statutory contribution rate. Note that the change in the ARC definition discussed in this report first becomes effective for FY 2006, so does not apply to any of the years shown.

² The dollar amount of the ARC is based on the actual payroll for the year. The FY 2004 ARC shown above differs from the estimated dollar amount shown in the July 1, 2004 actuarial valuation report because of differences between estimated and actual FY 2005 payroll.

**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 valuation at the dates indicated. Additional information as of the latest actuarial valuation follows:

Valuation date	July 1, 2005
Actuarial cost method	Entry Age Normal
Amortization method	Level percentage of payroll
Amortization period for GASB 25 ARC**	30-year open period
Asset valuation method	5-year smoothed market

Actuarial assumptions:

Investment rate of return*	8.00%
Projected salary increases*	4.50% to 14.00%
*Includes inflation at	3.00%
Cost-of-living adjustments	None

** The GASB Annual Required Contribution (ARC) for this plan is defined as the larger of (a) the sum of (i) the employer normal cost, and (ii) an amount necessary to amortize the UAAL as a level percentage of payroll over an open 30-year amortization period, and (b) the 7.75% statutory employer contribution rate. Payroll is assumed to increase at 2.00% per annum.

Membership Data

	July 1, 2005 (1)	July 1, 2004 (2)
1. Active members		
a. Males	2,665	2,732
b. Females	7,136	7,094
c. Total members	9,801	9,826
d. Total payroll supplied, annualized	\$ 386,617,411	\$ 376,542,342
e. Average salary	\$ 39,447	\$ 38,321
f. Average age	44.9	44.9
g. Average service	14.7	14.7
h. Total assessments with interest	\$ 498,218,648	\$ 475,258,374
i. Average assessments with interest	\$ 50,833	\$ 48,367
2. Vested inactive members		
a. Number	1,377	1,346
b. Total annual deferred benefits	\$ 7,624,634	\$ 7,341,844
c. Average annual deferred benefit	\$ 5,537	\$ 5,455
3. Nonvested inactive members		
a. Number	168	175
b. Employee assessments with interest due	\$ 442,142	\$ 457,669
c. Average refund due	\$ 2,632	\$ 2,615
4. Service retirees		
a. Number	5,020	4,816
b. Total annual benefits	\$ 81,545,347	\$ 74,929,029
c. Average annual benefit	\$ 16,244	\$ 15,558
5. Disabled retirees		
a. Number	79	79
b. Total annual benefits	\$ 867,129	\$ 855,422
c. Average annual benefit	\$ 10,976	\$ 10,828
6. Beneficiaries		
a. Number	487	478
b. Total annual benefits	\$ 5,341,566	\$ 5,117,943
c. Average annual benefit	\$ 10,968	\$ 10,707

Historical Summary of Active Member Data

Year Ending June 30,	Active Members		Covered Payroll		Average Salary		Average Age	Average Service
	Number (1)	Percent Increase /(Decrease) (3)	Amount in \$ Millions (4)	Percent Increase /(Decrease) (5)	\$ Amount (6)	Percent Increase /(Decrease) (7)		
1992	9,707	1.2%	250.9	6.7%	25,850	5.5%	41.7	12.8
1993	9,808	1.0%	260.4	3.8%	26,549	5.5%	42.2	13.2
1994	9,653	-1.6%	262.4	0.8%	27,187	5.2%	42.4	13.3
1995	9,663	0.1%	268.7	2.4%	27,803	2.3%	42.6	13.4
1996	9,797	1.4%	281.2	4.7%	28,708	3.3%	42.9	13.6
1997	10,010	2.2%	294.1	4.6%	29,382	2.3%	43.4	14.0
1998	9,896	-1.1%	298.4	1.5%	30,156	2.6%	43.5	14.0
1999	10,046	1.5%	314.6	5.4%	31,318	3.9%	44.0	14.4
2000	10,025	-0.2%	323.0	2.7%	32,223	2.9%	43.9	14.1
2001	10,239	2.1%	342.2	5.9%	33,421	3.7%	44.4	14.4
2002	9,931	-3.0%	348.1	1.7%	35,052	4.9%	44.5	14.4
2003	9,916	-0.2%	367.9	5.7%	37,105	5.9%	44.8	14.6
2004	9,826	-0.9%	376.5	2.3%	38,321	3.3%	44.9	14.7
2005	9,801	-0.3%	386.6	2.7%	39,447	2.9%	44.9	14.7

Plan Net Assets
(Assets at Market or Fair Value)

Item (1)	June 30, 2005 (2)	June 30, 2004 (3)
1. Cash and cash equivalents (operating cash)	\$ 8,648,006	\$ 8,378,563
2. Receivables:		
a. Member and employer contributions	\$ 7,403,583	\$ 6,354,427
b. Investment income	8,109,864	6,145,079
c. Due from other funds	20,170	0
d. Miscellaneous receivables	0	256
e. Total receivables	<u>\$ 15,533,617</u>	<u>\$ 12,499,762</u>
3. Investments		
a. Invested cash	\$ 28,950,655	\$ 39,971,282
b. Domestic equities	604,847,705	551,572,082
c. International equities	399,906,454	349,409,895
d. Domestic fixed income	201,123,853	182,967,765
e. International fixed income	71,304,366	62,533,112
f. Real estate	139,039,070	108,794,052
g. Private equity	62,572,727	60,138,622
h. Total investments	<u>\$ 1,507,744,830</u>	<u>\$ 1,355,386,810</u>
4. Invested securities lending collateral	\$ 104,685,772	\$ 69,506,360
5. Total assets	\$ 1,636,612,225	\$ 1,445,771,495
6. Liabilities		
a. Accounts payable	\$ 1,414,912	\$ 1,198,117
b. Accrued expenses	284,129	253,408
c. Due to other funds	32,985	133,933
d. Securities lending collateral	104,685,772	69,506,360
e. Total liabilities	<u>\$ 106,417,798</u>	<u>\$ 71,091,818</u>
7. Total market value of assets available for benefits (Item 5 - Item 6)	\$ 1,530,194,427	\$ 1,374,679,677
8. Asset allocation (investments)		
a. Invested cash and other	1.9%	3.0%
b. Domestic equities	40.2%	40.7%
c. International equities	26.5%	25.8%
d. Domestic fixed income	13.3%	13.5%
e. International fixed income	4.7%	4.6%
f. Real estate	9.2%	8.0%
g. Private equity	4.2%	4.4%
h. Total investments	<u>100.0%</u>	<u>100.0%</u>

Reconciliation of Plan Net Assets

	Year Ending	
	June 30, 2005 (1)	June 30, 2004 (2)
1. Value of assets at beginning of year	\$ 1,374,679,677	\$ 1,175,248,478
2. Revenue for the year		
a. Contributions		
i. Employee contributions	\$ 30,388,650	\$ 29,635,970
ii. Employer contributions	30,388,265	29,635,584
iii. Purchased service credit	3,292,441	4,383,456
iv. Interest and penalties	3,525	352
v. Total	\$ 64,072,881	\$ 63,655,362
b. Income		
i. Interest, dividends, and other income	\$ 39,228,237	\$ 36,337,615
ii. Investment expenses	(6,137,707)	(4,827,788)
iii. Net	\$ 33,090,530	\$ 31,509,827
c. Net realized and unrealized gains (losses)	\$ 147,669,725	\$ 188,732,952
d. Total revenue	\$ 244,833,136	\$ 283,898,141
3. Expenditures for the year		
a. Benefits and refunds		
i. Refunds*	\$ 2,733,407	\$ 5,800,100
ii. Regular annuity benefits	84,125,369	77,112,918
iii. Partial lump-sum benefits paid	372,761	40,136
iv. Total	\$ 87,231,537	\$ 82,953,154
b. Administrative and miscellaneous expenses	2,086,849	1,513,788
c. Total expenditures*	\$ 89,318,386	\$ 84,466,942
4. Increase in net assets (Item 2 - Item 3)	\$ 155,514,750	\$ 199,431,199
5. Value of assets at end of year (Item 1 + Item 4)	\$ 1,530,194,427	\$ 1,374,679,677

* Includes \$3,789,350 transfer to PERS in connection with transfer of DPI employees in FY 2004

Determination of Excess Earnings to be Deferred

Year ended :	June 30, 2002 (1)	June 30, 2003 (2)	June 30, 2004 (3)	June 30, 2005 (4)
1. MVA at beginning of year	\$ 1,290,662,140	\$ 1,165,369,565	\$ 1,175,248,478	\$ 1,374,679,677
2. Net new investments				
a. Contributions	\$ 56,415,165	\$ 60,210,068	\$ 63,655,362	\$ 64,072,881
b. Benefits and refunds paid	<u>(70,225,890)</u>	<u>(73,774,741)</u>	<u>(82,953,154)</u>	<u>(87,231,537)</u>
c. Subtotal	\$ (13,810,725)	\$ (13,564,673)	\$ (19,297,792)	\$ (23,158,656)
3. MVA at end of year	\$ 1,165,369,565	\$ 1,175,248,478	\$ 1,374,679,677	\$ 1,530,194,427
4. Net MVA earnings (3 - 1 - 2)	\$ (111,481,850)	\$ 23,443,586	\$ 218,728,991	\$ 178,673,406
5. Assumed investment return rate	8.00%	8.00%	8.00%	8.00%
6. Expected return	\$ 102,700,542	\$ 92,686,978	\$ 93,247,967	\$ 109,048,028
7. Excess return (4 - 6)	\$ (214,182,392)	\$ (69,243,392)	\$ 125,481,024	\$ 69,625,378
8. Excess return deferral percent	20%	40%	60%	80%
9. Amount deferred	\$ (42,836,478)	\$ (27,697,357)	\$ 75,288,614	\$ 55,700,302

Note: MVA is market value of assets

Development of Actuarial Value of Assets

1.	Market value of assets as of valuation	\$	1,530,194,427
2.	Deferred amounts for fiscal year ending June 30,		
	a. 2005	\$	55,700,302
	b. 2004	\$	75,288,614
	c. 2003	\$	(27,697,357)
	d. 2002	\$	<u>(42,836,478)</u>
	e. Total	\$	60,455,081
3.	Actuarial value of assets (1) - (2)	\$	1,469,739,346
4.	Ratio of actuarial value to market value		96.0%

Estimation of Yields

	Year Ending	
	June 30, 2005 (1)	June 30, 2004 (2)
A. Market value yield		
1. Beginning of year market assets	\$ 1,374,679,677	\$ 1,175,248,478
2. Investment income (including realized and unrealized gains and losses)		
a. Interest and dividends net of investment expenses	\$ 33,090,530	\$ 31,509,827
b. Realized and unrealized gains/(losses)	<u>147,669,725</u>	<u>188,732,952</u>
c. Total investment income based on market value	\$ 180,760,255	\$ 220,242,779
3. End of year market assets	\$ 1,530,194,427	\$ 1,374,679,677
4. Estimated dollar weighted market value yield	13.3%	18.9%
B. Actuarial value yield		
1. Beginning of year actuarial assets	\$ 1,445,594,633	\$ 1,438,400,768
2. Investment income (based on asset valuation method)		
a. Interest and dividends net of investment expenses	\$ 33,090,530	\$ 31,509,827
b. Realized and unrealized gains/(losses)	16,299,688	(3,504,382)
c. Less: administrative expenses	<u>(2,086,849)</u>	<u>(1,513,788)</u>
d. Net investment income based on asset valuation method	\$ 47,303,369	\$ 26,491,657
3. End of year actuarial assets	\$ 1,469,739,346	\$ 1,445,594,633
4. Estimated actuarial value yield	3.3%	1.9%

History of Investment Return Rates

<u>Plan Year Ending</u> <u>June 30 of</u> <u>(1)</u>	<u>Market</u> <u>(2)</u>	<u>Actuarial</u> <u>(3)</u>
1990	6.7%	7.7%
1991	7.5%	5.8%
1992	12.4%	6.5%
1993	14.7%	8.1%
1994	1.2%	7.0%
1995	13.6%	9.1%
1996	15.6%	11.3%
1997	18.5%	12.6%
1998	13.2%	12.6%
1999	11.5%	13.5%
2000	11.6%	13.3%
2001	-7.6%	8.6%
2002	-8.6%	3.0%
2003	2.1%	0.6%
2004	18.9%	1.9%
2005	13.3%	3.3%

Investment Experience Gain or Loss

Item (1)	Valuation as of	
	July 1, 2005 (2)	July 1, 2004 (3)
1. Actuarial assets, beginning of year	\$ 1,445,594,633	\$ 1,438,400,768
2. Total assessments and contributions during year	\$ 64,072,881	\$ 63,655,362
3. Benefits and refunds paid	\$ (87,231,537)	\$ (82,953,154)
4. Assumed net investment income at 8%		
a. Beginning of year assets	\$ 115,647,571	\$ 115,072,061
b. Assessments and contributions	2,562,915	2,546,214
c. Benefits and refunds paid	<u>(3,489,261)</u>	<u>(3,318,126)</u>
d. Total	\$ 114,721,225	\$ 114,300,149
5. Expected actuarial assets, end of year (Sum of Items 1 through 4)	\$ 1,537,157,202	\$ 1,533,403,125
6. Actual actuarial assets, end of year	\$ 1,469,739,346	\$ 1,445,594,633
7. Asset gain (loss) for year (Item 6 - Item 5)	\$ (67,417,856)	\$ (87,808,492)

Total Experience Gain or Loss

Item (1)	Valuation as of	
	July 1, 2005 (2)	July 1, 2004 (3)
A. Calculation of total actuarial gain or loss		
1. Unfunded actuarial accrued liability (UAAL), previous year	\$ 354,769,085	\$ 251,892,534
2. Normal cost for the year (employer and employee)	\$ 40,769,663	\$ 39,803,639
3. Less: contributions and assessments for the year	\$ (64,072,881)	\$ (63,655,362)
4. Interest at 8 %		
a. On UAAL	\$ 28,381,527	\$ 20,151,403
b. On normal cost	1,630,787	1,592,146
c. On contributions	(2,562,915)	(2,546,214)
d. Total	\$ 27,449,399	\$ 19,197,335
5. Expected UAAL (Sum of Items 1 - 4)	\$ 358,915,266	\$ 247,238,146
6. Actual UAAL	\$ 495,455,605	\$ 354,769,085
7. Total gain (loss) for the year (Item 5 - Item 6)	\$ (136,540,339)	\$ (107,530,939)
B. Source of gains and losses		
8. Asset gain (loss) for the year (Table 11)	\$ (67,417,856)	\$ (87,808,492)
9. Liability gain (loss) for the year	\$ (5,808,442)	\$ (19,722,447)
10. Change in benefit provisions	\$ -	\$ -
11. Change in actuarial assumptions	\$ (63,314,041)	N/A
12. Change in asset method	N/A	N/A
13. Total	\$ (136,540,339)	\$ (107,530,939)

History of Cash Flow

Year Ending June 30,	Disbursements or Expenditures				Total (6)	External Cash Flow for the Year ² (7)	Market Value of Assets (8)	External Cash Flow as Percent of Market Value (9)
	Contributions ¹ (2)	Benefit Payments (3)	Refunds (4)	Administrative Expenses (5)				
1990	32,491,026	(19,363,427)	(3,116,128)	(620,373)	(23,099,928)	9,391,098	449,961,104	2.1%
1991	32,276,625	(21,591,216)	(3,782,578)	(606,298)	(25,980,092)	6,296,533	490,424,458	1.3%
1992	34,326,788	(26,164,266)	(2,782,003)	(768,580)	(29,714,849)	4,611,939	556,086,158	0.8%
1993	35,474,901	(27,710,231)	(2,614,160)	(780,865)	(31,105,256)	4,369,645	642,418,007	0.7%
1994	36,106,560	(34,093,075)	(2,293,299)	(719,777)	(37,106,151)	(999,591)	649,345,245	-0.2%
1995	37,214,707	(36,001,717)	(2,186,791)	(788,743)	(38,977,251)	(1,762,544)	736,009,925	-0.2%
1996	38,552,876	(38,546,098)	(2,644,413)	(858,258)	(42,048,769)	(3,495,893)	847,339,136	-0.4%
1997	40,157,287	(39,522,935)	(2,590,766)	(832,223)	(42,945,924)	(2,788,637)	1,001,037,886	-0.3%
1998	47,411,761	(43,706,492)	(2,671,933)	(789,830)	(47,168,255)	243,506	1,133,469,244	0.0%
1999	49,158,925	(46,120,317)	(2,877,423)	(944,654)	(49,942,394)	(783,469)	1,262,584,076	-0.1%
2000	53,571,777	(53,583,271)	(2,788,019)	(1,015,549)	(57,386,839)	(3,815,062)	1,405,246,440	-0.3%
2001	54,522,507	(57,740,914)	(3,127,841)	(1,099,331)	(61,968,086)	(7,445,579)	1,290,662,140	-0.6%
2002	56,415,165	(67,482,482)	(2,743,408)	(1,066,309)	(71,292,199)	(14,877,034)	1,165,369,565	-1.3%
2003	60,210,068	(72,044,977)	(1,729,764)	(1,056,611)	(74,831,352)	(14,621,284)	1,175,258,478	-1.2%
2004	63,655,362	(77,153,054)	(5,800,100)	(1,513,788)	(84,466,942)	(20,811,580)	1,374,679,677	-1.5%
2005	64,072,881	(84,498,130)	(2,733,407)	(2,086,849)	(89,318,386)	(25,245,505)	1,530,194,427	-1.6%

¹ Column (2) includes employee assessments and employer contributions, as well as any purchased service credits during the year.

² Column (7) = Column (2) - Column (6).

Actuarial Balance Sheet

	<u>July 1, 2005</u> (1)	<u>July 1, 2004</u> (2)
A. Assets		
1. Current assets		
a. At market value	\$ 1,530,194,427	\$ 1,374,679,677
b. Adjustment for actuarial value	<u>(60,455,081)</u>	<u>70,914,956</u>
c. Actuarial value of assets	\$ 1,469,739,346	\$ 1,445,594,633
2. Actuarial present value of future contributions		
a. Member assessments	\$ 254,250,310	\$ 233,509,573
b. Employer normal costs	116,791,113	76,530,879
c. Unfunded actuarial accrued liability	<u>495,455,605</u>	<u>354,769,085</u>
d. Total	\$ 866,497,028	\$ 664,809,537
3. Total (1c + 2d)	<u><u>\$ 2,336,236,374</u></u>	<u><u>\$ 2,110,404,170</u></u>
B. Liabilities - present value of future benefits		
1. Retirees and beneficiaries	\$ 820,800,623	\$ 755,180,933
2. Inactive members	46,955,107	44,680,411
3. Active members	<u>1,468,480,644</u>	<u>1,310,542,826</u>
4. Total	<u><u>\$ 2,336,236,374</u></u>	<u><u>\$ 2,110,404,170</u></u>

Solvency Test

	<u>July 1, 2005</u> (1)	<u>July 1, 2004</u> (2)
1. Actuarial accrued liability (AAL)		
a. Active member contributions	\$ 498,218,648	\$ 475,258,374
b. Retirees and beneficiaries	820,800,623	755,180,933
c. Active and inactive members (employer financed)	<u>646,175,680</u>	<u>569,924,411</u>
d. Total	\$ 1,965,194,951	\$ 1,800,363,718
2. Actuarial value of assets	\$ 1,469,739,346	\$ 1,445,594,633
3. Cumulative portion of AAL covered		
a. Active member contributions	100.0%	100.0%
b. Retirees and beneficiaries	100.0%	100.0%
c. Active and inactive members (employer financed)	23.3%	37.8%

Distribution of Active Members by Age and by Years of Service

Attained Age	Years of Credited Service														Total Count & Avg. Comp.												
	0		1		2		3		4		5-9		10-14			15-19		20-24		25-29		30-34		35 & Over			
	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 20	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	
20-24	34	12,595	96	25,963	14	27,747	1	18,197	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	145	\$22,947	
25-29	52	13,976	236	26,625	194	28,425	164	29,803	123	29,798	125	32,064	0	0	0	0	0	0	0	0	0	0	0	0	894	\$28,060	
30-34	19	13,909	63	27,263	68	29,601	68	31,690	82	31,692	573	34,303	86	36,493	0	0	0	0	0	0	0	0	0	0	959	\$32,891	
35-39	17	14,908	53	26,589	39	30,395	47	34,002	53	32,237	364	35,522	467	40,046	121	43,340	0	0	0	0	0	0	0	0	1,161	\$37,063	
40-44	14	15,204	42	24,914	34	27,681	43	32,526	36	33,871	201	36,870	233	40,471	435	43,318	155	44,409	0	0	0	0	0	0	1,193	\$39,720	
45-49	17	11,821	33	27,166	30	28,153	36	30,200	32	30,549	195	36,656	214	41,214	258	42,566	457	44,523	212	44,654	288	47,645	3	42,865	3	1,487	\$40,954
50-54	19	16,409	34	28,504	31	29,522	31	31,762	21	32,625	185	36,224	213	41,285	242	41,917	311	45,989	663	47,494	663	47,494	288	47,645	1	2,039	\$43,680
55-59	14	13,803	22	30,564	19	32,493	22	38,392	16	33,912	114	36,004	143	39,760	181	44,554	239	45,853	264	47,857	264	47,857	309	50,282	76	1,419	\$44,930
60-64	7	26,374	7	22,983	4	44,255	6	34,968	5	33,046	40	32,829	35	37,102	59	41,641	83	46,063	60	47,842	60	47,842	34	58,064	88	428	\$44,849
65 & Over	1	14,341	3	14,493	1	20,133	1	27,313	2	27,631	8	31,307	7	34,587	14	44,312	16	45,097	7	44,230	7	44,230	5	59,208	11	76	\$43,865
Total	194	\$14,384	589	\$26,641	434	\$29,071	419	\$31,530	370	\$31,399	1,805	\$35,192	1,398	\$40,136	1,310	\$43,019	1,261	\$45,231	1,206	\$47,073	639	\$49,543	639	\$52,502	176	9,801	\$39,447

Schedule of Retired Members by Type of Benefit

Type of Benefit/ Form of Payment (1)	Number (2)	Annual Benefits Amount (3)	Average Monthly Benefit (4)
Service :			
Straight Life	2,544	\$ 31,077,104	\$ 1,018
100% J&S	1,361	27,907,809	1,709
50% J&S	372	7,266,341	1,628
5 Years C&L	34	444,294	1,089
10 Years C&L	154	2,167,258	1,173
20 Years C&L	16	294,807	1,535
Level	539	12,387,734	1,915
Subtotal:	<u>5,020</u>	<u>\$ 81,545,347</u>	1,354
Disability:			
Straight Life	61	\$ 690,196	\$ 943
100% J&S	9	89,561	829
50% J&S	5	44,464	741
5 Years C&L	2	25,253	1,052
10 Years C&L	1	7,992	666
20 Years C&L	1	9,663	805
Level	0	0	0
Subtotal:	<u>79</u>	<u>\$ 867,129</u>	915
Beneficiaries			
Straight Life	466	\$ 5,196,068	\$ 929
5 Years C&L	9	58,177	539
10 Years C&L	12	87,321	606
20Years C&L	0	0	0
Subtotal:	<u>487</u>	<u>\$ 5,341,566</u>	914
Total:	<u><u>5,586</u></u>	<u><u>\$ 87,754,042</u></u>	\$ 1,309

Schedule of Retired Members by Monthly Benefit

Monthly Benefit Amount			Total	Female	Male
(1)			(2)	(3)	(4)
Under \$100			40	34	6
\$	100	- 199	117	81	36
	200	- 299	186	133	53
	300	- 399	279	234	45
	400	- 499	297	249	48
	500	- 599	322	260	62
	600	- 699	335	281	54
	700	- 799	258	209	49
	800	- 899	203	161	42
	900	- 999	229	166	63
	1000	- 1199	528	372	156
	1200	- 1399	478	302	176
	1400	- 1599	474	268	206
	1600	- 1799	422	250	172
	1800	- 1999	382	204	178
	2000	- 2199	270	128	142
	2200	- 2399	227	103	124
	2400	- 2599	157	68	89
	2600	- 2799	119	45	74
	2800	- 2999	86	25	61
	3000	& Over	177	36	141
Total			5,586	3,609	1,977

Summary of Assumptions and Methods

ACTUARIAL ASSUMPTIONS

1. Investment Return Rate..... 8.00% per annum, compounded annually, composed of an assumed 3.00% inflation rate and a 5.00% real rate of return. (Adopted July 1, 1990; allocation between inflation and real rate of return modified July 1, 2000.)

2. Mortality Rates

a. Post Retirement

Non-Disabled..... 1994 Uninsured Pensioner Mortality Table set back three years for males and two years for females. (Adopted July 1, 2005.)

b. Post Retirement

Disabled Pension Benefit Guaranty Corporation Disabled Life Mortality Tables Va and VIa.

Age	Deaths per 100 Lives			
	Male Participants		Female Participants	
	Non-Disabled	Disabled	Non-Disabled	Disabled
20	.0463	4.83	.0293	2.63
25	.0598	4.83	.0313	2.63
30	.0782	3.62	.0338	2.37
35	.0902	2.78	.0454	2.14
40	.0958	2.82	.0643	2.09
45	.1346	3.22	.0943	2.24
50	.2042	3.83	.1297	2.57
55	.3455	4.82	.2051	2.95
60	.6001	6.03	.3612	3.31
65	1.0911	6.78	.7179	3.70
70	1.9391	7.39	1.2648	4.11

c. Active Mortality 65% of non-disabled post-retirement mortality rates.

3. Retirement Rates The following rates of retirement are assumed for members eligible to retire. (Adopted July 1, 2005.)

Age	Retirements Per 100 Members			
	Unreduced Retirement Ultimate Rate*		Reduced Retirement	
	Male	Female	Male	Female
50	20.0%	25.0%	0.0%	0.0%
51	20.0%	25.0%	0.0%	0.0%
52	20.0%	25.0%	0.0%	0.0%
53	20.0%	25.0%	0.0%	0.0%
54	20.0%	25.0%	0.0%	0.0%
55	20.0%	25.0%	2.0%	1.5%
56	20.0%	25.0%	2.0%	1.5%
57	20.0%	25.0%	2.0%	1.5%
58	20.0%	25.0%	2.0%	1.5%
59	20.0%	20.0%	2.0%	1.5%
60	25.0%	25.0%	5.0%	2.0%
61	30.0%	30.0%	5.0%	2.0%
62	30.0%	50.0%	20.0%	10.0%
63	25.0%	25.0%	5.0%	5.0%
64	20.0%	50.0%	25.0%	20.0%
65	65.0%	50.0%	--	--
66	35.0%	30.0%	--	--
67	35.0%	30.0%	--	--
68	35.0%	30.0%	--	--
69	35.0%	30.0%	--	--
70	100.0%	100.0%	--	--

*If a member reaches eligibility for unreduced retirement under the rule of 85 before age 65, a retirement rate of 50.0% (for males) or 65.0% (for females) is used for that age only.

4. Disability Rates As shown below for selected ages. (Adopted July 1, 2000.)

Age	Disabilities Per 100 Members
20	0.016
25	0.016
30	0.016
35	0.016
40	0.048
45	0.080
50	0.128
55	0.224
60	0.432
65	0.000

5. Termination Rates 80% of the following withdrawal rates are used based on age and service, for causes other than death, disability, or retirement.
(Adopted July 1, 2005.)

Males											
Years of Service											
Age	0	1	2	3	4	5	6	7	8	9	10+
25	0.1420	0.1379	0.1366	0.1339	0.1220	0.1067	0.0896	0.0878	0.0860	0.0842	0.0598
30	0.1416	0.1376	0.1363	0.1336	0.1210	0.1053	0.0907	0.0889	0.0871	0.0853	0.0470
35	0.1359	0.1321	0.1308	0.1282	0.1141	0.0988	0.0867	0.0849	0.0832	0.0815	0.0343
40	0.1317	0.1280	0.1267	0.1243	0.1074	0.0928	0.0824	0.0808	0.0791	0.0775	0.0252
45	0.1282	0.1246	0.1234	0.1210	0.1002	0.0868	0.0777	0.0761	0.0746	0.0730	0.0196
50	0.1246	0.1211	0.1199	0.1176	0.0916	0.0809	0.0725	0.0710	0.0696	0.0681	0.0188
55	0.1444	0.1403	0.1390	0.1362	0.0974	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
60	0.1588	0.1544	0.1529	0.1499	0.1071	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
65	0.1747	0.1698	0.1681	0.1648	0.1178	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Females											
Years of Service											
Age	0	1	2	3	4	5	6	7	8	9	10+
25	0.1654	0.1607	0.1592	0.1560	0.1307	0.1119	0.0952	0.0806	0.0790	0.0774	0.0352
30	0.1373	0.1334	0.1321	0.1295	0.1107	0.0964	0.0836	0.0738	0.0723	0.0708	0.0312
35	0.1143	0.1110	0.1100	0.1078	0.0926	0.0820	0.0732	0.0672	0.0658	0.0645	0.0275
40	0.0978	0.0951	0.0941	0.0923	0.0779	0.0695	0.0637	0.0607	0.0595	0.0583	0.0242
45	0.0910	0.0885	0.0876	0.0859	0.0686	0.0593	0.0553	0.0545	0.0535	0.0524	0.0220
50	0.0967	0.0940	0.0931	0.0912	0.0670	0.0519	0.0480	0.0484	0.0475	0.0465	0.0227
55	0.1455	0.1414	0.1400	0.1373	0.0742	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
60	0.1885	0.1831	0.1814	0.1778	0.0907	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
65	0.2498	0.2428	0.2404	0.2357	0.1167	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6. Salary Increase Rates..... Inflation rate of 3.00% plus productivity increase rate of 1.50%, plus step-rate/promotional increase as shown below. (Adopted July 1, 2005.)

Years of Service	Annual Step-Rate/ Promotional Component	Annual Total Salary Increase
0	9.50%	14.00%
1	3.50%	8.00%
2	3.25%	7.75%
3	3.00%	7.50%
4	2.75%	7.25%
5	2.50%	7.00%
6	2.25%	6.75%
7	2.00%	6.50%
8	1.75%	6.25%
9	1.50%	6.00%
10	1.25%	5.75%
11	1.00%	5.50%
12	1.00%	5.50%
13	1.00%	5.50%
14	0.75%	5.25%
15 or more	0.00%	4.50%

6. Payroll Growth Rate..... 2.00% per annum. This assumption does not include any allowance for future increase in the number of members. (Adopted July 1, 2005.)

7. Percent Married For valuation purposes 75% of members are assumed to be married. 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. (Adopted July 1, 1992.)

8. Percent Electing a Deferred Termination Benefit Terminating members are assumed to elect the most valuable benefit at the time of termination. Termination benefits are assumed to commence at the first age at which unreduced benefits are available. (Adopted July 1, 1990.)

9. Provision for Expense The assumed investment return rate represents the anticipated net rate of return after payment of all administrative and investment expenses. (Adopted July 1, 1992.)

ASSET VALUATION METHOD

The actuarial value of assets is based on the market value of assets with a five-year phase-in of actual investment return in excess of (or less than) expected investment income. Expected investment income is determined using the assumed investment return rate and the market value of assets (adjusted for receipts and disbursements during the year). The actual investment return for this purpose is determined net of all investment and administrative expenses.

ACTUARIAL COST METHOD

The GASB Annual Required Contribution (ARC) is determined using the Entry Age Normal actuarial cost method. This method assigns the plan's total actuarial present value of future benefits to various periods. The actuarial accrued liability is assigned to years prior to the valuation, and the normal cost is assigned to the year following the valuation. The remaining costs are assigned to future years.

The normal cost rate is determined as a level percentage of payroll for a hypothetical group of new entrants, based on the characteristics (age at hire, sex, pay at hire) of actual new members joining TFFR during FY 2000 through FY 2004. The actuarial accrued liability is the difference between the total present value of future benefits and the actuarial present value of future normal costs. The unfunded actuarial accrued liability (UAAL) is the excess of the actuarial accrued liability over the actuarial value of assets.

AMORTIZATION PERIOD AND METHOD

The GASB Annual Required Contribution (ARC) is determined as the sum of (a) the employer normal cost rate, and (b) a level percentage of payroll required to amortize the unfunded actuarial accrued liability over 30 years. If the calculated ARC is less than the 7.75% statutory employer contribution rate, the 7.75% rate will be treated as the ARC. The 30-year period is an open period, and does not decrease in subsequent valuations.

Summary of Benefit Provisions

1. Effective Date: July 1, 1971.
2. Plan Year: Twelve-month period ending June 30th.
3. Administration: The Teachers' Fund for Retirement (TFFR) is administered by a Board of Trustees. A separate State Investment Board is responsible for the investment of the trust assets, although the TFFR Board establishes the asset allocation policy. The Retirement and Investment Office is the administrative agency for TFFR.
4. Type of Plan: TFFR is a qualified governmental defined benefit retirement plan. For Governmental Accounting Standards Board purposes, it is a cost-sharing multiple employer Public Employee Retirement System.
5. Eligibility: All certified teachers of any public school in North Dakota participate in TFFR. This includes teachers, supervisors, principals, administrators, etc. Non-certified employees such as teacher's aides, janitors, secretaries, drivers, etc. are not allowed to participate in TFFR. Eligible employees become members at their date of employment.
6. Employee Assessments: All active members contribute 7.75% of their salary per year. The employer may "pick up" the member's assessments under the provisions of Internal Revenue Code Section 414(h).
7. Salary: The member's total earnings are used for salary purposes, including overtime, etc., and including nontaxable wages under a Section 125 plan, but excluding certain extraordinary compensation, such as fringe benefits or unused sick and vacation leave.
8. Employer Contributions: The district or other employer which employs a member contributes 7.75% of the member's salary.
9. Service: Employees receive credit for service while a member. A member may also purchase credit for certain periods, such as time spent teaching at a public school in another state, by paying the actuarially determined cost of the additional service. Special rules and limits govern the purchase of additional service.

10. Final Average Compensation (FAC): The average of the member's highest three plan year salaries. Monthly benefits are based on one-twelfth of this amount.

11. Normal Retirement

- a. Eligibility: A member may retire upon Normal Retirement on or after age 65 with credit for 3 years of service, or if earlier, when the sum of the member's age and service is at least 85.
- b. Monthly Benefit: 2.00% of FAC (monthly) times years of service.
- 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 assessments plus interest, 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 three years of service.
- b. Monthly Benefit: 2.00% of FAC (monthly) times years of service, multiplied by a factor which reduces the benefit 6% for each year from the earlier of (i) age 65, or (ii) the age at which current service plus age equals 85.
- c. Payment Form: Same as for Normal Retirement above.

13. Disability Retirement

- a. Eligibility: A member is eligible provided he/she has credit for at least one year of service.
- b. Monthly Benefit: 2.00% of FAC (monthly) times years of service with a minimum 20 years of service.
- c. Payment Form: The disability benefit commences immediately upon the member's retirement. Benefits cease upon recovery or reemployment. Disability benefits are payable as a monthly life annuity with a guarantee that, at the member's death, the sum of the member's assessments plus interest as of the date of retirement that is in excess of the sum of payments already received will be paid in a lump sum to the member's beneficiary. All

alternative forms of payment are also permitted in the case of disability retirement. Disability benefits are converted to normal retirement benefits when the member reaches normal retirement age or age 65, whichever is earlier.

14. Deferred Termination Benefit

- a. Eligibility: A member with at least three years of service who does not withdraw his/her contributions from the fund is eligible for a deferred termination benefit.
- b. Monthly Benefit: 2.00% of FAC (monthly) times years of service. Both FAC and service are determined at the time the member leaves active employment. Benefits may commence unreduced at age 65 or when the rule of 85 is met (age plus service equals 85). Reduced benefits may commence at or after age 55 if the member is not eligible for an unreduced benefit.
- c. Payment Form: The form of payment is the same as for Normal Retirement above.
- d. Death Benefit: A member who dies after leaving active service but before retiring is entitled to receive a benefit as described below in 16b.

15. Withdrawal (Refund) Benefit

- a. Eligibility: All members leaving covered employment with less than three years of service are eligible. Optionally, vested members (those with three or more years of service) may withdraw their assessments plus interest in lieu of the deferred benefits otherwise due.
- b. Benefit: The member who withdraws receives a lump-sum payment of his/her employee assessments, plus the interest credited on these contributions. Interest is credited at 6%.

16. Death Benefit

- a. Eligibility: Death must have occurred while an active or an inactive, non-retired member.
- b. Benefit: Upon the death of a nonvested member, a refund of the member's assessments and interest is paid. Upon the death of a vested member, the beneficiary may elect (i) the refund benefit above, (ii) payment for 60 months of the normal retirement benefit, based on FAC and service determined at the date of death, or (iii) a life annuity of the normal retirement benefit, determined under Option One below, based on FAC and service as of the date of death, but without applying any reduction for the member's age at death. Members not eligible for normal retirement benefits under Option One use the Fund's disability reduction tables.

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 payable while either the participant or his beneficiary is alive, "popping-up" to the original life annuity if the beneficiary predeceases the member.
- b. Option 2 - A life annuity payable to the member while both the member and beneficiary are alive, reducing to 50% of this amount if the member predeceases the beneficiary, and "popping-up" to the original life annuity if the beneficiary predeceases the member.
- c. Option 3a - A life annuity payable to the member, with a guarantee that, should the member die prior to receiving 60 payments (five years), the payments will be continued to a beneficiary for the balance of the five-year period. (This option has been replaced by Option 3b. It is not available to employees who retire on or after August 1, 2003. Retirees who elected this option prior to that date are unaffected.)
- d. Option 3b - A life annuity payable to the member, with a guarantee that, should the member die prior to receiving 240 payments (twenty years), the payments will be continued to a beneficiary for the balance of the twenty-year period. (This option replaced Option 3a effective August 1, 2003.)

- e. Option 4 - A life annuity payable to the member, with a guarantee that, should the member die prior to receiving 120 payments (10 years), the payments will be continued to a beneficiary for the balance of the ten-year period.
- f. Option 5 - A nonlevel annuity payable to the member, designed to provide a level total income when combined with the member's Social Security benefit.

In addition, members may elect a partial lump-sum option (PLSO) at retirement. Under this option, a member receives an immediate lump-sum equal to 12 times the monthly life annuity benefit and a reduced annuity. The reduction is determined actuarially. The member can then elect to receive the annuity benefit in one of the other optional forms, except that members who receive a PLSO may not elect Option 5 – the level income option. The PLSO is not available to disabled retirees or retirees who are not eligible for an unreduced retirement benefit

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

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

Summary of Plan Changes

1991 Legislative Session:

1. Benefit multiplier increased from 1.275% to 1.39% for all future retirees.
2. Provide a post-retirement benefit increase for all annuitants receiving a monthly benefit on June 30, 1991. The monthly increase is the greater of a 10% increase or a level increase based on years of service and retirement date:
 - a. \$3 per year of service for retirements before 1980
 - b. \$2 per year of service for retirements between 1980 and 1983
 - c. \$1 per year of service for retirements from 1984 through June 30, 1991

Minimum increase is \$5 per month. Maximum increase is \$75 per month.

1993 Legislative Session:

1. Benefit multiplier increased from 1.39% to 1.55% for all future retirees.
2. Provide a post-retirement benefit increase for all annuitants receiving a monthly benefit on June 30, 1993. The monthly increase is the greater of a 10% increase or a level increase based on years of service and retirement date:
 - a. \$3 per year of service for retirements before 1980
 - b. \$2.50 per year of service for retirements between 1980 and 1983
 - c. \$1 per year of service for retirements from 1984 through June 30, 1993

Minimum increase is \$5 per month. Maximum increase is \$100 per month.

3. Minimum retirement benefit increased to \$10 times years of service up to 25, plus \$15 times years of service greater than 25. (Previously was \$6 up to 25 years of service plus \$7.50 over 25 years of service.)
4. Disability benefit changed to 1.55% of FAC times years of service using a minimum of 20 years of service.

1995 Legislative Session:

There were no material changes made during the 1995 legislative session.

1997 Legislative Session:

1. Benefit multiplier increased from 1.55% to 1.75% for all future retirees.
2. Member assessment rate and employer contribution rate increased from 6.75% to 7.75%.
3. A \$30.00/month benefit improvement was granted to all retirees and beneficiaries.

1999 Legislative Session:

1. Active members will now be fully vested after three years (rather than five years) of service.
2. Early retirement benefits will be reduced 6% per year from the earlier of (i) age 65, or (ii) the date as of which age plus service equals 85 (rather than from age 65 in all cases).
3. An ad hoc COLA was provided for all retirees and beneficiaries. This increase is equal to an additional \$2.00 per month for each year of service plus \$1.00 per month for each year since the member's retirement.
4. The formula multiplier was increased from 1.75% to 1.88% effective July 1, 1999.

2001 Legislative Session:

1. An ad hoc COLA was provided for all retirees and beneficiaries. The ad hoc COLA increase is equal to an additional \$2.00 per month for each year of service plus \$1.00 per month for each year since the member's retirement. Retirees and beneficiaries will also receive two additional increases equal to 0.75% times the monthly benefit, payable July 1, 2001 and July 1, 2002. The two 0.75% increases are conditional. If the actuarial margin is a shortfall, i.e., is negative, by 60 basis points or more, or if the margin has been negative by 30 or more basis points for two years, the Board could elect to suspend the increase.
2. The formula multiplier was increased from 1.88% to 2.00% effective July 1, 2001.

2003 Legislative Session:

1. Partial lump-sum option adopted, equal to twelve times the monthly life annuity benefit. Not available if level-income option is elected. Not available for reduced retirement or disability retirement.
2. Five-year certain and life option replaced with 20-year certain and life. This does not impact retirees who retired under the five-years certain and life option.
3. Employer service purchase authorized.
4. Active members of the Department of Public Instruction are permitted to make a one-time irrevocable election to transfer to the North Dakota Public Employees Retirement System in FY2004. Both assets and liabilities for all TFFR service will be transferred for electing employees. Transferred assets will be based on the actuarial present value of the member's accrued TFFR benefit, or the member's contribution account balance if larger.

2005 Legislative Session:

There were no material changes made during the 2005 legislative session.