# 07 - 0173

#### STATE OF MINNESOTA TEACHERS RETIREMENT ASSOCIATION

# ACTUARIAL REPORT

Prepared for the Board of Trustees as of July 1, 2006



December 11, 2006

Board of Trustees State of Minnesota Teachers Retirement Association 60 Empire Drive, Suite 400 St. Paul, MN 55103

Ladies and Gentlemen:

Pursuant to our agreement we have completed an actuarial valuation of the Teachers Retirement Association Fund as of July 1, 2006 and are pleased to submit our report on the results of the study. Actuarial valuations are prepared as of each July 1 and the last valuation was completed as of July 1, 2005.

This report has been prepared in accordance with the requirements of Minnesota Statute Section 356.215 and the requirements of the Standards for Actuarial Work adopted by the Legislative Commission using employee data and asset information supplied by the Teachers Retirement Association. This report also contains schedules of Funding Progress and Employer Contributions in Tables 14 and 15 that were prepared by the Segal Company, actuary for the Joint Pension Board.

We believe that the actuarial assumptions and methods used meet the parameters set forth in GASB Statement 25 except where parameters are set by statute. The calculated contribution rates shown in this report are assumed to remain level throughout the amortization period, but are recalculated each July 1 to recognize actuarial gains and losses as they occur.

Qualified actuaries of Buck Consultants completed the valuation in accordance with accepted actuarial procedures as prescribed by the Actuarial Standards Board. The qualified actuaries are members of the American Academy of Actuaries and are experienced in performing actuarial valuations of public employee retirement systems. To the best of our knowledge, this report is complete and accurate and has been prepared in accordance with generally accepted actuarial principles and practice.

We look forward to discussing this report with the Board and wish to express our appreciation for the cooperation extended to us during the course of this study.

Respectfully submitted,

Kimm highell

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Enclosure

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# MINNESOTA TEACHERS RETIREMENT FUND

JULY 1, 2006 TABLE OF CONTENTS

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	Description		Р
	Letter of T	ransmittal	
I.	Overview		
	Report High	lights	
	Discussion 1	Highlights	
11.	Assets		
	TABLE 1	Accounting Balance Sheet	
	TABLE 2	Changes in Assets Available for Benefits	
<b>]]]</b> .	Membersh	ip Data	
	TABLE 3	Active Members – Total	
	TABLE 3A	Active Members – Non-MTRFA	
	TABLE 3B	Active Members – MTRFA Basic	
	TABLE 3C	Active Members – MTRFA Coordinated	
	TABLE 4	Service Retirements – Total	
	TABLE 4A	Service Retirements – Non-MTRFA	
	TABLE 4B	Service Retirements – MTFRA	
	TABLE 5	Disability Retirements – Total	· · · · · · · · · · · · · · · · · · ·
	TABLE 5A	Disability Retirements – Non-MTRFA	
	TABLE 5B	Disability Retirements – MTRFA	ر ه
	TABLE 6	Beneficiaries – Total	, 
	TABLE 6A	Beneficiaries – Non-MTRFA	, 
	TABLE 6B	Beneficiaries – MTRFA	
	TABLE 7	Reconciliation of Members – Total	
	TABLE 7A	Reconciliation of Members – Non-MTRFA	
	TABLE 7B	Reconciliation of Members – MTRFA	, A
IV.	Funding S	tatus	
	TABLE 8	Actuarial Balance Sheet	2
	TABLE 9	Determination of Unfunded Actuarial Accrued	
		Liability (UAAL) and Supplemental Contribution Rate	
	TABLE 10	Changes in Unfunded Actuarial Accrued Liability (UAAL)	
	TABLE 11	Determination of Contribution Sufficiency	3
V.	Actuarial A	Assumptions and Methods	
	TABLE 12	Summary of Actuarial Assumptions and Methods	
	TABLE 12A	Probabilities of Separation	4
		Years of Life Expectancy After Service Retirement	
	TABLE 12C	Salary Increase by Age	4

# TABLE OF CONTENTS

# Description Page VI. Summaries of Plan Provisions Non-MTRFA Basic Members 46 TABLE 13A Summary of Plan Provisions – Non-MTRFA Basic Members 51 TABLE 13B Summary of Plan Provisions – MTRFA Basic Members 51 TABLE 13C Summary of Plan Provisions – Coordinated Members 55 VII. GASB 25 Disclosure 55

TABLE 14	Schedule of Funding Progress	62
TABLE 15	Schedule of Employer Contributions	63

OVERVIEW

SECTION

# **REPORT HIGHLIGHTS**

		(Dollars in T	hou	sands)
		July 1, 2006 Valuation		July 1, 2005 Valuation*
A. CONTRIBUTIONS				
<ol> <li>Statutory Contributions - Chapter 354 Percentage of Payroll</li> </ol>		11.30%		10.00%
2. Required Contributions - Chapter 356 Percentage of Payroll		12.12%		9.69%
3. Sufficiency (Deficiency) (A1-A2)		(0.82)%		0.31%
B. FUNDING RATIOS		·		
<ol> <li>Accrued Benefit Funding Ratio         <ol> <li>Current Assets</li> <li>Current Benefit Obligations</li> <li>Funding Ratio (a/b)</li> </ol> </li> </ol>	\$ \$	19,037,046 19,701,114 96.63%	\$ \$	17,754,075 17,135,617 103.61%
<ol> <li>Accrued Liability Funding Ratio         <ul> <li>Current Assets</li> <li>Actuarial Accrued Liability</li> <li>Funding Ratio (a/b)</li> </ul> </li> </ol>	\$ \$	19,037,046 20,560,683 92.59%	\$ \$	17,754,075 17,892,504 99.23%
<ul> <li>3. Projected Benefit Funding Ratio</li> <li>a. Current and Expected Future Assets</li> <li>b. Current and Expected Future Benefit Obligations</li> <li>c. Funding Ratio (a/b)</li> </ul>	\$ \$	23,195,264 23,776,460 97.56%	\$ \$	20,788,913 20,664,908 100.60%
				100.0070
<ul> <li>C. PLAN PARTICIPANTS <ol> <li>Active Members <ol> <li>Number</li> <li>Projected Annual Payroll</li> <li>Average Annual Salary</li> <li>Average Age</li> <li>Average Service</li> </ol> </li> </ol></li></ul>		79,170 \$3,742,970 \$47,278 43.27 11.56		74,533 \$3,446,740 \$46,244 43.01 11.56
2. Others				
<ul> <li>a. Service Retirements</li> <li>b. Disability Retirements</li> <li>c. Survivors</li> <li>d. Deferred Retirements</li> <li>e. Terminated Other Nonvested</li> <li>f. Total Others</li> </ul>		40,964 631 3,060 11,783 <u>21,946</u> 78,384		35,706 581 2,627 9,880 <u>19,151</u> 67,945
3. Total		157,554		142,478

\* The July 1, 2005 results reflect the TRA valuation only, not the MTRFA valuation.

#### Plan Merger

The Laws of Minnesota (2006) Chapter 277 authorized the merger of the Minneapolis Teachers Retirement Fund Association (MTRFA) into TRA. All assets, liabilities, active, inactive and retired MTRFA members were transferred to TRA as of June 30, 2006.

Upon the merger, and as reflected in the July 1, 2006 valuation by Buck Consultants:

- There were 13,748 MTRFA members, consisting of 4,381 active members, 5,444 inactive members and 3,923 benefit recipients, increasing the total TRA membership from 143,806 to 157,554. (Note: There may be some duplication in counting records of members who were already members of the TRA.)
- MTRFA plan assets were approximately \$712 million compared to \$1.9 billion in actuarial accrued liability, measured on a post-merger basis and including the impact of benefit improvements adopted in 2006. The difference is a shortfall of \$1.2 billion, of which \$264 million was borne by the MPRIF and \$956 million by the TRA active fund.
- The contribution rates for TRA and MTRFA are identical for members, but the MTRFA employers contribute 3.64% of payroll more than TRA employers. The Fund also begins receiving approximately \$21.3 million annually in additional, previously legislated contributions that had been payable to the MTRFA.

#### **Changes in Plan Provisions**

Several plan changes were adopted since the last valuation.

- The benefit rate for all Coordinated members was increased by 0.2% for service accrued after July 1, 2006.
- The deferral augmentation rate for deferred retirement benefits was reduced to 2.5% for all years of deferral for members hired after June 30, 2006. This change did not impact this year's valuation, but will impact future year's valuations when new hires become members.
- The employee contribution rate for Coordinated members was increased effective July 1, 2006 from 5.00% to 5.50%.
- The employee contribution rate for the former MTRFA Basic members was increased effective July 1, 2006 from 8.50% to 9.00%.
- The employer contribution rates for the TRA and MTRFA employers will increase by 0.50% of payroll effective July 1, 2007. The increases is <u>not</u> reflected in this year's valuation, but will be reflected beginning July 1, 2007. The increase in employer contribution rates will improve the contribution sufficiency or deficiency by 0.50% of payroll beginning July 1, 2007.

#### **Changes in Actuarial Assumptions and Methods**

There have been no changes in the TRA actuarial assumptions and methods since the last valuation. The assumptions for MTRFA members were changed from last year to be the same as the TRA assumptions, with the exception of the retirement rates for MTRFA Basic members, who are eligible to retire with unreduced benefits at age 60 or after 30 years of service.

For the required contribution rate, the period for amortizing any Unfunded Actuarial Accrued Liability (UAAL) was changed from 15 years (30 years for a negative UAAL) to a period ending July 1, 2037 (31 years as of July 1, 2006).

#### Contributions

The required contribution rate as of July 1, 2006 is 12.12% of payroll, compared to 9.69% of payroll last year. The statutory contribution rate increased from 10.00% of payroll to 11.30% of payroll. Thus, the Fund went from having a contribution sufficiency of 0.31% of payroll last year to having a contribution deficiency of 0.82% of payroll this year. Table 11 provides additional detail on the contribution rates.

The key reasons for the change in the level of contribution sufficiency (deficiency) are:

Contribution sufficiency July 1, 2005	0.31%
Impact of plan changes on TRA members, including increase in employee contribution rates	(0.35)
Merger of MTRFA into TRA	(0.63)
Other reasons, including actuarial gains (losses)	<u>(0.15)</u>
Contribution deficiency July 1, 2006	(0.82)%

#### **Funding Ratios**

The funding ratios show the percentage of the Fund's liabilities or obligations that is covered by the Fund's assets. Three funding ratios are shown in the report highlights. In each case, the Fund's funded ratio declined from July 1, 2005 to July 1, 2006, primarily due to the plan changes and MTRFA merger.

#### Accrued Benefit Funding Ratio

The Accrued Benefit Funding Ratio measures Current Assets (the actuarially smoothed value) against the Current Benefit Obligations, which is the actuarial accrued liability generated by the Projected Unit Credit Funding Method. This is the method required under GASB Statement No. 5, which was the required disclosure standard prior to replacement by GASB Statement No. 25. The Projected Unit Credit funding method calculates liabilities using projected pay and "accrued" service on the valuation date, hence the title "Accrued Benefit" Funding Ratio. The Projected Unit Credit method typically results in a lower liability than the Entry Age Normal method used for funding purposes under the statutes and it therefore generates a higher funding ratio.

The Accrued Benefit Funding Ratio is 96.63% as of July 1, 2006, down from 103.61% last year.

#### Accrued Liability Funding Ratio

The Accrued Liability Funding Ratio measures Current Assets (the actuarially smoothed value) against the Actuarial Accrued Liability generated by the Actuarial Funding method used to determine the Fund's required contributions (the Entry Age Normal funding method). The Entry Age Normal funding method develops liabilities using projected service and pay but spreads the cost out over each member's working lifetime from entry into the plan. This is considered the official plan funding ratio and is the required disclosure under the GASB Statement No. 25.

The Accrued Liability Funding Ratio is 92.59% as of July 1, 2006, down from 99.23% last year.

#### Projected Benefit Funding Ratio

The Projected Benefit Funding Ratio measures the value of Current and Expected Future Assets against Current and Projected Benefit Obligations of the Fund for current retired, inactive, and active members. The projected assets take into account both the Current Assets (the actuarially smoothed value) plus the present value of future member and employer contributions for normal cost plus future employer "supplemental" contributions. Supplemental contributions are the amount of statutory employer and member contributions in excess of the required contributions for Normal Cost and expenses. The Projected Benefit Obligations are benefit liabilities based on both projected pay and service without regard to any spreading of costs. This funding ratio can be seen as a longer term view of the funding ratio, incorporating the past, present and future, since it takes into account both current and future assets and also the liability for both current and future service and pay.

The Projected Benefit Funding Ratio is 97.56% as of July 1, 2006, down from 100.60% last year.

SECTION

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# ASSETS

ASSETS

July 1, 2006 assets at cost and market value are accounted for in Table 1, which follows. Table 2 shows the changes in assets during the year ended June 30, 2006. The TRA and MTRFA figures are combined.

As required by Statute, any funding sufficiency or deficiency in the MPRIF is not reflected in this valuation. Thus, for the purpose of this valuation, the value of assets associated with the MPRIF is included on an actuarially determined, full reserve basis, rather than on the true cost or market basis.

#### Development of Current ("Actuarial") Assets

Section F of Table 1 shows the development of the "Current Assets" value. This value is used to determine Required Contributions. Effective with the July 1, 2000 actuarial valuation, Minnesota Statutes require that the asset value used for valuation purposes spread differences between actual return (measured on a market-value basis) and expected return on non-MPRIF assets over five years, in a manner similar to that already being used within the MPRIF. The actuarial value as of July 1, 2006 is based on the market value of assets as of June 30, 2006 less 80% of the unrecognized asset return at July 1, 2006 less 60% of the unrecognized asset return at July 1, 2005 less 40% of the unrecognized asset return at July 1, 2003. The unrecognized asset return at each July 1 is the actual return less the expected return for the prior twelve months.

# TABLE 1

#### July 1, 2006 Accounting Balance Sheet

·			(Dollars in T	Thous	sands)
		M	larket Value		Cost Value
Α.	ASSETS				
	1. Cash, Equivalents, Short-Term Securities	\$	83,231	\$	83,231
	2. Investments				
	a. Fixed Income		1,679,142		1,781,009
	b. Equity		4,800,141		4,681,425
	c. Real Estate & Alternative Investments		842,143		722,460
	3. Equity at Cost in Minnesota Post-Retirement				
	Investment Fund (MPRIF)*		12,371,205		12,371,205
	4. Other		2,047,850		2,047,850
	5. Total Assets	\$	21,823,712	\$	21,687,180
Β.	ASSETS RECEIVABLE		18,821		18,821
C.	AMOUNTS CURRENTLY PAYABLE		(2,056,862)		(2,056,862)
D.	NET ASSETS AVAILABLE FOR BENEFITS	\$	19,785,671	\$	19,649,139
	1. Member Reserves	\$	1,765,117	\$	1,765,117
	2. Non-MPRIF Reserves		5,649,349		5,512,817
	3. MPRIF Reserves		12,371,205		12,371,205
E.	NET ASSETS AVAILABLE FOR BENEFITS	\$	19,785,671	\$	19,649,139
F.	DETERMINATION OF ACTUARIAL VALUE OF ASSETS				<u></u>
	1. Market Value of Assets Available for Benefits (E)			\$	19,785,671
	2. Unrecognized asset return at June 30, 2006		653,134		,,
	3. Unrecognized asset return at June 30, 2005		177,282		
	4. Unrecognized asset return at June 30, 2004		500,244		
	5. Unrecognized asset return at June 30, 2003		(401,746)		
	6. Adjustment				
	(80% of 2. + 60% of 3. + 40% of 4. + 20% of 5.)				748,625
	7. Actuarial Value of Assets (Fl – F6)				
	(Same as "Current Assets")			\$	19,037,046
	8. Percentage of Market Value (F7 / F1)				96.2%

\* \$12,371,205,000 is the full MPRIF reserve as calculated by the Commission actuary. The fair market value is \$10,350,060,000. The difference of \$2,021,145,000 is a deficiency in the MPRIF that is accounted for separately and is not reflected in this valuation.

# TABLE 2 Changes in Assets Available for Benefits YEAR ENDING JUNE 30, 2005

			(1	Dolla	rs in Thousand	s)	
		1	Non-MPRIF		MPRIF		Market
			Assets		Reserves	··	Value
Α.	ASSETS AVAILABLE AT BEGINNING						
	OF YEAR						
	1. TRA Assets	\$	7,367,961	\$	10,438,051	\$	17,806,012
	2. MTRFA Assets		745,215		0		745,215
	3. Sum of Assets at Beginning of Year	\$	8,113,176	\$	10,438,051	\$	18,551,227
В.	OPERATING REVENUES						
	1. Member Contributions	\$	177,085	\$	0	\$	177,085
	2. Employer Contributions		179,022		0		179,022
	3. Earnings Limitation Savings Account		3,182		0		3,182
	4. Investment Income		680,655		3,393		684,048
	5. MPRIF Income		0		876,766		876,766
	6. Net Realized Gain (Loss)		481,162		0		481,162
	7. Other		29,494		·· 0		29,494
	8. Investment Fees		(13,113)		(14,680)		(27,793)
	9. Net Change in Unrealized Gain (Loss)		81,331		0		81,331
	10. Total Revenue	\$	1,618,818	\$	865,479	\$	2,484,297
C.	OPERATING EXPENSES						
	1. Service Retirements	\$	119,169	\$	1,064,552	\$	1,183,721
	2. Disability Benefits		13,119		0		13,119
	3. Survivor Benefits		8,977		15,213		24,190
	4. Refunds		11,873		0		11,873
	5. Administrative Expenses		11,913		0		11,913
	6. Other		1,856		3,182	·	5,038
	7. Total Disbursements	\$	166,907	\$	1,082,947	\$	1,249,854
D.	OTHER CHANGES IN RESERVES						
	1. Annuities Awarded*	\$	(1,174,769)	\$	1,174,769	\$	0
	2. MTRFA Assets Available At Merger		(712,586)		712,586		0
	3. MTRFA Shortfall at Merger		(263,995)		263,995		0
	4. MPRIF Mortality Loss (Gain)		729		(729)		0
	5. Total Other Changes	\$	(2,150,621)	\$	2,150,621	\$	0
E.	FUND BALANCE AT END OF YEAR						
	( A + B9 - C8 + D4 )	\$	7,414,466	\$	12,371,204	\$	19,785,670

\* Includes \$450,419,000 of TRA funds transferred to the MPRIF for MTRFA annuitants.

SECTION

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# MEMBERSHIP DATA

#### Basis

The valuation was based upon data supplied by the Teachers Retirement Association. We thank them for their excellent cooperation in this area.

#### Demographics

Tables 3 - 6, which follow, present June 30, 2006 demographic information on active and retired members by age and service (or years retired). That information is summarized below. Table 7 reconciles the number of members from June 30, 2005 to June 30, 2006.

# TABLE 3 AGE AND SERVICE DISTRIBUTION WITH AVERAGE ANNUAL SALARY AS OF JUNE 30, 2006

ACTIVE MEMBERS - TOTAL

						YE	ARS O	= 5	SERVIC	Е						
· CURRENT AGE											, · • · · ·					
	 0-4	5-9		10-14	15-19		20-24		25-29		30-34	35-39	4	10&Over		TOTAL
Below 25	\$ 2,665 30,426														\$.	2,665 30,426
25-29	\$ 8,829 33,867	\$ 1,232 42,180													\$	10,061 34,885
30-34	\$ 3,871 35,146	\$ 5,329 44,501	\$	546 51,766	\$ 1 54,660										\$	9,747 41,193
35-39	\$ 2,798 35,235	\$ 3,268 45,418	\$	3,882 53,362	\$ 402 59,691										\$	10,350 46,199
40-44	\$ 2,496 34,276	\$ 1,855 46,245	\$	2,244 53,646	\$ 2,482 59,039	\$	426 61,875	\$	1 43,095						\$	9,504 48,891
45-49	\$ 2,624 31,364	\$ 1,769 45,245	. \$	1,614 53,933	\$ 1,834 58,007	\$	1,934 61,264	\$	585 61,764	\$	1 43,286				\$	10,361 49,264
50-54	\$ 1,836 34,036	\$ 1,442 44,702	\$	1,652 52,790	\$ 1,600 58,886	\$	1,416 61,676	\$	2,855 63,980	\$	1,032 63,960				\$	11,833 54,456
55-59	\$ 1,442 33,698	\$ 982 45,495	\$	1,263 52,366	\$ 1,317 58,733	\$	1,190 62,123	\$	1,787 64,914	\$	2,587 65,775	\$ 316 65,436			\$	10,884 56,737
60-64	\$ 641 30,247	\$ 330 44,260	\$	361 52,080	\$ 459 57,386	\$	374 62,651	\$	368 66,638	\$	234 73,397	\$ 229 72,253	\$	14 65,540	\$	3,010 53,730
64&Over	\$ 395 29,554	\$ 87 38,258	\$	53 47,263	\$ 50 60,163	\$	54 65,713	\$	36 66,197	\$	30 74,419	\$ 37 78,284	\$	13 72,721	\$	755 43,075
TOTAL	\$ 27,597 33,508	\$ 16,294 44,828	\$	11,615 53,164	\$ 8,145 58,673	\$	5,394 61,751	\$	5,632 64,230	\$	3,884 65,813	\$ 582 68,935	\$	27 68,997	\$	79,170 47,278
		 ge Age: Service:		43.27 11.56												

MINNESOTA TEACHERS RETIREMENT FUND JULY 1, 2006 VALUATION REPORT

# TABLE 3A AGE AND SERVICE DISTRIBUTION WITH AVERAGE ANNUAL SALARY AS OF JUNE 30, 2006

#### ACTIVE MEMBERS - NON-MTRFA

YEARS OF SERVICE

CURRENT AGE													
	0-4		5-9	10-14	 15-19		20-24	25-29	30-34	35-39	4	0&Over	TOTAL
Below 25	\$ 2,601 30,891												\$ 2,601 30,891
25-29	\$ 8,601 34,308	\$	1,200 42,570										\$ 9,801 35,319
30-34	3,740 35,561	\$	5,037 44,548	\$ 538 51,648	. 1 54,660	,							\$ 9,316 41,351
35-39	2,704 35,516	\$	3,005 45,194	\$ 3,698 53,139	\$ 399 59,576								\$ 9,806 46,107
40-44	\$ 2,415 34,438	\$	1,665 45,690	\$ 2,034 52,994	\$ 2,394 58,921	\$	413 61,734	\$ 1 43,095					\$ 8,922 48,602
45-49	2,264 33,610	\$	1,580 45,230	\$ 1,428 52,710	\$ 1,712 57,817	\$	1,863 61,071	\$ 580 61,717	\$ 1 43,286	·			\$ 9,428 50,002
50-54	1,772 34,171	\$	1,312 44,202	\$ 1,477 51,751	\$ 1,449 58,174	\$	1,344 61,229	\$ 2,818 63,882	\$ 1,028 63,924				\$ 11,200 54,223
55-59	1,389 34,052	\$	886 44,290	\$ 1,095 50,837	\$ 1,185 57,508	\$	1,107 61,244	\$ 1,730 64,611	\$ 2,570 65,702	\$ 312 65,317			\$ 10,274 56,371
60-64	\$ 622 30,570	\$	289 43,049	\$ 279 49,684	\$ 413 56,557	\$	350 61,845	\$ 355 66,292	\$ 220 73,393	\$ 217 71,833	\$	14 65,540	\$ 2,759 53,102
64&Over	\$ 381 29,945	\$	74 40,274	\$ 39 47,054	\$ 38 58,718	\$	46 64,184	\$ 32 63,688	\$ 28 73,951	\$ 31 79,831	\$	13 72,721	\$ 682 42,430
TOTAL	\$ 26,489 34,052		15,048 44,622	10,588 52,432	\$		5,123 61,284	\$ 5,516 64,033	\$ 3,847 65,721	\$ 560 68,645	\$	27 68,997	-
	Ave	raç	ge Age:	43.12									

Average Service: 11.61

Consists of 74,788 Coordinated Members and one Basic Member

MINNESOTA TEACHERS RETIREMENT FUND JULY 1, 2006 VALUATION REPORT

## TABLE 3B AGE AND SERVICE DISTRIBUTION WITH AVERAGE ANNUAL SALARY AS OF JUNE 30, 2006

#### ACTIVE MEMBERS - MTRFA BASIC

YEARS OF SERVICE CURRENT AGE 5-9 0-4 10-14 15-19 20-24 25-29 30-34 35-39 40&Over TOTAL Below 25 25-29 30-34 35-39 40-44 45-49 50-54 3 5 7 22 4 41 \$ 73,137 \$ 58,337 \$ 75,164 \$ 76,651 \$ 73,273 \$ 73,577 55-59 22 38 97 2 14 17 4 \$ 72,154 \$ 68,058 \$ 77,931 \$ 74,992 \$ 76,779 \$ 74,748 \$ 74,903 2 60-64 8 5 8 13 12 48 \$ 61,716 \$ 57,332 \$ 73,283 \$ 71,559 \$ 71,940 \$ 79,845 \$ 71,132 64&Over 1 3 2 12 1 5 \$ 62,158 \$ 63,800 \$ 88,405 \$ 80,974 \$ 68,039 \$ 74,443 TOTAL 7 28 35 71 36 21 198 \$ 69,593 \$ 63,047 \$ 76,310 \$ 75,686 \$ 74,875 \$ 76,063 \$ 73,686 Average Age: 58.34

Average Service: 27.10

MINNESOTA TEACHERS RETIREMENT FUND JULY 1, 2006 VALUATION REPORT

# TABLE 3C AGE AND SERVICE DISTRIBUTION WITH AVERAGE ANNUAL SALARY AS OF JUNE 30, 2006

					,	YE	ARS O	FS	SERVIC	E		 		
CURRENT AGE														
	0-4		5-9	10-14	15-19		20-24		25-29	_	30-34	35-39	40&Over	TOTAL
Below 25	64 11,542													\$ 64 11,542
25-29	228 17,243	\$	32 27,590	ĸ										\$ 260 18,516
30-34	131 23,308	\$	292 43,678	8 59,721										\$ 431 37,785
35-39	\$ 94 27,138	\$	263 47,968	\$ 184 57,851	\$ 3 75,006									\$ 544 47,861
40-44	\$ 81 29,434	\$	190 51,115	\$ 210 59,953	\$ 88 62,253		13 66,349							\$ 582 53,311
45-49	\$ 360 17,239	\$	189 45,370	\$ 186 63,320	\$ 122 60,675		71 66,331	\$	5 67,299					\$ 933 41,808
50-54	\$ 64 30,298	\$	130 49,743	\$ 172 61,358	\$ 146 65,975	\$	65 69,478	\$	15 63,785					\$ 592 57,541
55-59	\$ 53 24,409	\$	96 56,618	166 62,213	118 69,932	\$	61 72,374		19 72,340					\$ 513 60,619
60-64	\$ 19 19,652	\$	41 52,797	\$ 80 60,195	\$ 38 66,410	\$	19 74,692	\$	5 83,311	\$	1 93,243			\$ 203 58,159
64&Over	14 18,905	\$	13 26,778	14 47,846	\$ 11 64,973	\$	7 76,037		1 79,857			\$ 1 81,540		\$ 61 44,115
TOTAL	1,108 20,519		1,246 47,315	1,020 60,644	526 65,073				45 70,314		1 93,243			\$ 4,183 47,231
	Ave	eraç	ge Age:	45.16										

#### ACTIVE MEMBERS - MTRFA COORDINATED

MINNESOTA TEACHERS RETIREMENT FUND JULY 1, 2006 VALUATION REPORT

10.00

Average Service:

# TABLE 4 AGE AND YEARS OF RETIREMENT DISTRIBUTION WITH AVERAGE ANNUAL BENEFIT AS OF JUNE 30, 2006

#### SERVICE RETIREMENTS - TOTAL

					 YE	AF	RS OF F	SE.	TIREME	EN	Γ					
CURRENT AGE																
		0-4	5-9	10-14	15-19		20-24		25-29		30-34	35-39	4	0&Over	-	TOTAL
Below 50									-			•				
50-54		29 30,853													\$	29 30,853
55-59		4,244 31,511	368 39,643												\$	4,612 32,160
60-64	\$	4,124 27,298	\$ 5,096 29,771	\$ 101 29,765	\$ 2 1,901			\$	1 2,412						\$	9,324 28,668
65-69	\$	1,570 16,927	\$ 4,999 23,975	\$ 2,363 26,297	\$ 60 21,760			\$	1 15,213						\$	8,993 23,339
70-74	\$	198 14,018	\$ 1,740 24,586	\$ 3,688 31,637	\$ 1,264 28,991	\$	31 28,056	\$	1 9,941						\$	6,922 28,858
75-79	\$	41 14,505	\$ 172 23,921	\$ 1,580 29,465	\$ 2,061 31,281		1,130 34,154	\$	33 24,757			\$ 1 16,987			\$	5,018 30,921
80-84	\$	9 10,771	\$ 27 21,518	\$ 148 32,447	\$ 1,013 28,547	\$	1,518 34,798	\$	327 23,843	\$		1 14,403			\$	3,057 31,154
85-89	\$	2 2,023		\$ 6 10,823	\$ 104 31,822	\$	866 29,586	\$	673 27,823		113 14,123	\$ 2 18,492			\$	1,766 27,949
89&Over	,			\$ 1 1,402	\$ 4 3,281	\$	89 29,666	\$	535 26,633	\$	493 21,650	\$ 105 12,185	\$	16 14,740		
TOTAL		10,217 27,136	12,402 26,901	7,887 29,574			3,634 33,172		1,571 26,489	\$	620 20,122	\$ 109 12,365	\$	16 14,740		40,964 28,196

MINNESOTA TEACHERS RETIREMENT FUND JULY 1, 2006 VALUATION REPORT

# TABLE 4A AGE AND YEARS OF RETIREMENT DISTRIBUTION WITH AVERAGE ANNUAL BENEFIT AS OF JUNE 30, 2006

					YE	AF	rs of f	RE.	TIREME	EN'	T '				
CURRENT AGE															
		0-4	5-9	10-14	15-19		20-24		25-29		30-34	35-39	4	0&Over	TOTAL
Below 50					-										
50-54		17 22,662													\$ 17 22,662
55-59	\$	3,973 31,264	\$ 228 37,432												\$ 4,201 31,599
60-64	\$	3,821 27,549	\$ 4,667 29,051	\$ 37 22,335	\$ 2 1,901			\$	1 2,412						\$ 8,528 28,339
65-69	\$	1,435 16,787	\$ 4,674 23,575	\$ 2,135 24,663	\$ 24 14,944										\$ 8,268 22,653
70-74		172 13,116	\$ 1,615 24,446	\$ 3,433 31,277	\$ 1,154 27,742		6 31,655	\$	1 9,941						\$ 6,381 28,416
75-79	\$	38 14,250	\$ 147 22,725	\$ 1,466 29,417	\$ 1,852 30,637	\$	1,048 33,818	\$	8 19,381						\$ 4,559 30,565
80-84	\$	5 15,536	\$ 23 17,812	\$ 131 31,503	\$ 920 28,031	\$	1,391 34,844	\$	264 20,408	\$	3 32,859				\$ 2,737 30,821
85-89	\$	2 2,023		\$ 6 10,823	\$ 89 31,120	\$	799 29,878	\$	581 27,243	\$	99 14,447	\$ 1 28,066			\$ 1,577 27,900
89&Over	<b>1</b>			\$ 1 1,402	\$ 4 3,281	\$	74 27,962	\$	486 27,239	\$	428 21,754	\$ 88 10,724	\$	14 13,982	1,095 23,536
TOTAL	\$	9,463 27,141	\$ 11,354 26,205	\$ 7,209 28,877	\$ 4,045 29,095		3,318 33,165		1,341 25,818		530 20,452	\$ 89 10,919		14 13,982	37,363 27,752

#### SERVICE RETIREMENTS - NON-MTRFA

# TABLE 4B AGE AND YEARS OF RETIREMENT DISTRIBUTION WITH AVERAGE ANNUAL BENEFIT AS OF JUNE 30, 2006

								YE	AF	RS OF F	RΕ.	TIREM	ΞN	г						
CURRENT AGE																				
		0-4		5-9		10-14		15-19		20-24		25-29		30-34		35-39	4	10&Over		TOTAL
Below 50																				
50-54	\$	12 42,456																	\$	12 42,456
55-59		271 35,124	\$	140 43,245												·			\$	411 37,890
60-64	\$	303 24,134	\$	429 37,608	\$	64 34,060													\$	796 32,194
65-69		135 18,419	\$	325 29,728	\$	228 41,599	\$	36 26,304			\$	1 15,213							\$	725 31,165
70-74	\$	26 19,985	\$	125 26,402	\$	255 36,489	\$	110 42,087	\$	25 27,192									\$	541 34,074
75-79	\$	3 17,732	\$	25 30,956	\$	114 30,079	\$	209 36,982	\$	82 38,445	\$	25 26,478			\$	1 16,987			\$	459 34,459
80-84	\$	4 4,816	\$	4 42,824	\$	17 39,716	\$	93 33,654	\$	127 34,298	\$	63 38,238	\$	11 9,773	\$	1 14,403			\$	320 34,007
85-89							\$	15 35,991	\$	67 26,101	\$	92 31,483	\$	14 11,836	\$	1 8,917			\$	189 28,358
89&Over									\$	15 38,073	\$	49 20,626	\$	65 20,967	\$	17 19,743	\$	2 20,048	\$	148 22,435
TOTAL		754		1,048	¢	678	¢	463	¢	0.0	¢.	230	¢	90 19 170	¢	20	¢	2		3,601
	ф	27,001	Ф	J4,44Z	ф	30,901	Ф	30,004	Ф	JJ,2DJ	Ф	30,405	ф	10,179	Ф	10,797	Ф	20,048	φ	32,801

SERVICE RETIREMENTS - MTRFA

# TABLE 5

# AGE AND YEARS OF RETIREMENT DISTRIBUTION WITH AVERAGE ANNUAL BENEFIT AS OF JUNE 30, 2006

#### DISABILITY RETIREMENTS - TOTAL

	 				YE	AF	RS OF F	RET	IREME	NT				
CURRENT AGE														
	 0-4	5-9	•	10-14	15-19		20-24		25-29	30-34	35-39	40&Over	-	TOTAL
Below 50	\$ 33 8,745	\$ 14 8,003	\$	5 8,490									\$	52 8,521
50-54	46 15,233	29 12,418		13 15,038	\$ 2 6,801					·			\$	90 14,110
55-59	\$ 139 20,183	\$ 90 20,749	\$		\$ 9 13,676		2 23,769		1 6,403				\$	270 20,564
60-64	\$ 64 18,344	\$ 78 27,837	\$	52 27,256	\$ 13 18,196	\$	3 45,522	\$	2 8,043				\$	212 24,301
65-69	7 16,168												\$	7 16,168
70-74										·				
75-79														
80-84														
85-89														
89&Over					 				x					
TOTAL	289 17,585	211 21,379											\$	631 19,858

# TABLE 5A AGE AND YEARS OF RETIREMENT DISTRIBUTION WITH AVERAGE ANNUAL BENEFIT AS OF JUNE 30, 2006

				YE	AF	RS OF F	RET	IREME	NT				
CURRENT AGE													
	 0-4	5-9	10-14	15-19		20-24		25-29	30-34	35-39	40&Over	•	TOTAL
Below 50	\$ 30 9,148	\$ 14 8,003	\$ 5 8,490									\$	49 8,754
50-54	\$ 45 15,210	\$ 26 13,639	12 12,668	\$ 2 6,801								\$	85 14,173
55-59	\$ 131 19,655	\$ 86 20,100	\$ 27 21,995	\$ 9 13,676	\$	1 9,596	\$	1 6,403				\$	255 19,750
60-64	\$ 61 18,101	\$ 76 27,792	49 24,660	\$ 12 15,370	\$	3 45,522	\$	2 8,043				\$	203 23,457
65-69	7 16,168											\$	7 16,168
70-74													
75-79													
80-84											ţ		
85-89													
89&Over													
TOTAL	274 17,340	\$ 202 21,324	93 21,470			4 36,540		3 7,496				\$	599 19,274

#### DISABILITY RETIREMENTS - NON-MTRFA

# TABLE 5B AGE AND YEARS OF RETIREMENT DISTRIBUTION WITH AVERAGE ANNUAL BENEFIT AS OF JUNE 30, 2006

**DISABILITY RETIREMENTS - MTRFA** 

	 			YE	ARS OF R	ETIREME	NT			
CURRENT AGE										
	 0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40&Over	TOTAL
Below 50	\$ 3 4,716									3 \$ 4,716
50-54	\$ 1 16,265	\$ 3 1,834	\$ 1 43,470				•			5 \$ 13,048
55-59	\$ 8 28,831	\$ 4 34,713	2 54,270		1 \$ 37,942					15 \$ 34,399
60-64	\$ 3 23,284	2 29,538	\$ 3 69,659	1 \$ 52,102						9 \$ 43,334
65-69									• •	
70-74										
75-79						. •				
80-84							·			
85-89										
89&Over										
TOTAL		9 22.603	6 60.164	1 \$ 52,102	1 \$ 37,942				··	32 \$ 30,793

# TABLE 6 AGE AND YEARS OF RETIREMENT DISTRIBUTION WITH AVERAGE ANNUAL BENEFIT

AS OF JUNE 30, 2006

SURVIVORS - TOTAL
-------------------

					YE	AF	RS OF F	RE.	FIREME	EN	Г	 			
CURRENT AGE				-											
	0-4		5-9	10-14	15-19		20-24		25-29		30-34	35-39	4	0&Over	TOTAL
Below 50	37 8,457	\$	16 8,594	16 18,598		\$	3 16,694								\$ 72 11,084
50-54	40 15,276		15 10,897	\$ 4 10,774		\$	2 4,326								\$ 61 13,545
55-59	112 18,803	\$	36 16,037	13 15,156	\$ 5 5,207										\$ 166 17,508
60-64	\$ 76 22,435	\$	156 22,088	\$ 22 22,934	\$ 3 8,546	\$	1 28,258								\$ 258 22,129
65-69	\$ 27 14,079	\$	155 22,254	155 19,551	13 21,744		3 16,722		1 18,333			\$ 1 14,661			\$ 355 20,354
70-74	6 15,314	\$	88 22,573	\$ 297 27,251	150 26,033	\$	30 30,538	\$	21 22,766	\$	4 16,211		\$	2 5,748	\$ 598 25,999
75-79	\$ 3 24,550	\$	13 23,395	\$ 145 26,595	\$ 198 28,040	\$	152 31,800	\$	19 29,883	\$	3 13,552	\$ 1 11,406		2 5,781	\$ 536 28,453
80-84	\$ 1 53,388	\$	1 8,534	\$ 19 25,513	\$ 154 26,884	\$	267 30,859	\$	54 26,054	\$	8 20,587	\$ 3 8,531	\$	1 5,940	\$ 508 28,601
85-89		\$	1 11,604	\$ 2 10,322	\$ 13 19,688	\$	158 31,065	\$	117 31,017		14 21,282	\$ 2 32,643	\$	3 7,767	\$ 310 29,716
89&Over		`		\$ 2 29,118			12 22,284		96 26,747	\$		13 11,294		6 10,429	
TOTAL	302 17,662			675 24,572										14 8,205	

MINNESOTA TEACHERS RETIREMENT FUND JULY 1, 2006 VALUATION REPORT

# TABLE 6A AGE AND YEARS OF RETIREMENT DISTRIBUTION WITH AVERAGE ANNUAL BENEFIT AS OF JUNE 30, 2006

SURVIVORS - NON-MTRFA

				YE	AF	RS OF F	RE.	TIREME	N	Г				
CURRENT AGE														
	0-4	5-9	10-14	15-19		20-24		25-29		30-34	35-39	4	0&Over	TOTAL
Below 50	\$ 32 8,037	\$ 7 3,782	\$ 2 2,357										· ·	\$ 41 7,034
50-54	\$ 39 15,047	\$ 13 8,933	\$ 4 10,774		\$	1 1,360								\$ 57 13,113
55-59	\$ 108 18,285	\$ 35 16,387	\$ 11 14,399	\$ 4 4,866										\$ 158 17,255
60-64	\$ 70 22,623	\$ 148 21,811	\$ 19 21,349	\$ 3 8,546										\$ 240 21,845
65-69	\$ 27 14,079	\$ 148 22,300	\$ 146 19,246	\$ 9 13,402		2 2,354								\$ 332 19,927
70-74	\$ 6 15,314	\$ 78 22,786	\$ 264 27,357	\$ 126 23,466	\$	8 25,426	\$	8 20,725	\$	2 11,416		\$	2 5,748	\$ 494 25,206 <sup>-</sup>
75-79	\$ 3 24,550	\$ 13 23,395	\$ 141 26,807	\$ 192 27,707	\$	134 31,899	\$	6 31,610	\$	3 13,552	\$	\$	2 5,781	\$ 495 28,293
80-84	\$ 1 53,388	\$ 1 8,534	\$ 18 24,097	\$ 151 27,179	\$	261 30,839	\$	40 24,846	\$	5 18,061	\$ 2 6,548	\$	1 5,940	\$ 480 28,650
85-89			\$ 1 2,201	\$ 13 19,688	\$	156 31,096	\$	109 30,818	\$	9 21,061	\$ 1 33,800	\$	· 3 7,767	\$ 292 29,846
89&Over	 		\$ 1 34,890		\$	12 22,284	\$	92 26,642	\$	61 27,424	\$ 10 9,564	\$	5 9,222	\$ 181 25,238
TOTAL	286 17,488	\$ 443 21,071	\$ 607 24,538	\$ 498 25,707		574 30,752	\$	200	\$	80 25,203	\$ 14 10,996		13 7,570	

MINNESOTA TEACHERS RETIREMENT FUND JULY 1, 2006 VALUATION REPORT

# TABLE 6B AGE AND YEARS OF RETIREMENT DISTRIBUTION WITH AVERAGE ANNUAL BENEFIT AS OF JUNE 30, 2006

SURVIVORS - MTRFA

	 -				YE	AF	RS OF F	RE.	TIREME	EN	Г			
CURRENT AGE		•		_										
	 0-4	 5-9	10-14		15-19		20-24		25-29		30-34	35-39	40&Over	TOTAL
Below 50	5 11,140	9 12,336	14 20,918				3 16,694							\$ 31 16,441
50-54	1 24,205					\$	1 7,292							4 19,705
55-59	\$ 4 32,789	1 3,774	2 19,323	\$	1 6,570									8 22,518
60-64	\$ 6 20,232	8 27,225	3 32,971				1 28,258							\$ 18 25,909
65-69		\$ 7 21,266	9 24,502				1 45,457					\$ 1 14,661		\$ 23 26,517
70-74		\$ 10 20,910	\$ 33 26,398	\$			22 32,397		13 24,021	\$				104 29,765
75-79			\$ 4 19,107	\$			18 31,064							\$ 41 30,386
80-84							6 31,706			\$		1 12,497		\$ 28 27,763
85-89		\$	1 18,442			\$	2 28,674	\$	8 33,720		5 21,678			\$ 18 27,613
89&Over	 		\$ 1 23,346					\$			6 17,382		1 \$ 16,461	
TOTAL													1 \$ 16,461	

#### 

#### TABLE 7 RECONCILIATION OF MEMBERS YEAR ENDING JUNE 30, 2006

#### TOTAL MEMBERS

A.	AS OF JUNE 30, 2005	Actives 79,289	Inactives 34,012
В.	ADDITIONS	7,778	5,302
<b>C.</b>	<ol> <li>DELETIONS         <ol> <li>Service Retirement</li> <li>Disability</li> <li>Death</li> <li>Terminated - No Refund</li> <li>Terminated - Refund</li> <li>Returned to Active</li> <li>Terminated - Inactives</li> <li>Transfers to IRAP</li> </ol> </li> </ol>	$(2,083) \\ (104) \\ (49) \\ 0 \\ (472) \\ 0 \\ (5,186) \\ 0 \\ ($	(420) (24) (43) (1,942) (924) (2,056) 0 0
D.	DATA ADJUSTMENTS	(3)	(176)
E.	TOTAL ON JUNE 30, 2006	79,170	33,729
	Vested Non-Vested	61,741 17,429	11,783 21,946

		F	RECIPIENTS	
	-	Retirement		
		Annuitants	Disabled	Survivors
Α.	AS OF JUNE 30, 2005	39,209	606	2,904
В.	ADDITIONS	2,548	. 89	296
C.	DELETIONS			
	1. Service Retirement Conversions	0	(49)	0
	2. Death	(796)	(16)	(60)
	3. Annuity Expired	(14)	0	(75)
	4. Returned to Active	0	(5)	0
	5. Cancelled	0	0	0
D.	DATA ADJUSTMENTS	17	6	(5)
E.	TOTAL ON JUNE 30, 2006	40,964	631	3,060

#### TABLE 7A RECONCILIATION OF MEMBERS YEAR ENDING JUNE 30, 2006

#### NON-MTRFA MEMBERS

А. В.	AS OF JUNE 30, 2005 ADDITIONS	Actives 74,533 7,293	<u>Inactives</u> 29,031 4,601
C.	<ol> <li>DELETIONS</li> <li>Service Retirement</li> <li>Disability</li> <li>Death</li> <li>Terminated - No Refund</li> <li>Terminated - Refund</li> <li>Returned to Active</li> <li>Terminated - Inactives</li> <li>Transfers to IRAP</li> </ol>	(1,956) (102) (48) 0 (429) 0 (4,499) 0	(362) (24) (39) (1,942) (822) (1,982) 0 0
D.	DATA ADJUSTMENTS	(3)	(176)
E.	TOTAL ON JUNE 30, 2006	74,789	28,285
	Vested Non-Vested	57,995 16,794	10,235 18,050

	RECIPIENTS											
		Retirement										
		Annuitants	Disabled	Survivors								
Α.	AS OF JUNE 30, 2005	35,706	581	2,627								
Β.	ADDITIONS	2,366	82	266								
C.	DELETIONS											
	1. Service Retirement Conversions	0	(49)	0								
	2. Death	(715)	(13)	(51)								
	3. Annuity Expired	(14)	0	(67)								
	4. Returned to Active	0	(5)	0								
	5. Cancelled	0	0	0								
D.	DATA ADJUSTMENTS	20	3	(5)								
E.	TOTAL ON JUNE 30, 2006	37,363	599	2,770								

#### TABLE 7B RECONCILIATION OF MEMBERS YEAR ENDING JUNE 30, 2006

#### MTRFA MEMBERS

A.	AS OF JUNE 30, 2005	Actives 4,756	Inactives 4,981
В.	ADDITIONS	485	701
C.	<ol> <li>DELETIONS</li> <li>Service Retirement</li> <li>Disability</li> <li>Death</li> <li>Terminated - No Refund</li> <li>Terminated - Refund</li> <li>Returned to Active</li> <li>Terminated - Inactives</li> <li>Transfers to IRAP</li> </ol>	(127) (2) (1) 0 (43) 0 (687) 0	(58) 0 (4) 0 (102) (74) 0 0
D.	DATA ADJUSTMENTS	0	0
E.	TOTAL ON JUNE 30, 2006	4,381	5,444
	Vested Non-Vested	3,746 635	1,548 3,896

		RECIPIENTS		
		Retirement		
		Annuitants*	Disabled	Survivors
Α.	AS OF JUNE 30, 2005	3,503	25	277
В.	ADDITIONS	182	7	30
C.	DELETIONS			
	1. Service Retirement Conversions	0	0	0
	2. Death	(81)	(3)	(9)
	3. Annuity Expired	0	0	(8)
	4. Returned to Active	0	0	0
	5. Cancelled	0	0	0
D.	DATA ADJUSTMENTS	(3)	3	0
E.	TOTAL ON JUNE 30, 2006	3,601	32	290

\* Member and payee of a domestic relations order are counted as one person

SECTION

# FUNDING STATUS

# FUNDING STATUS

The tables that follow present the funding status of the Fund on a variety of bases. These are the Actuarial Balance Sheet (Table 8) and the development of the Required Contribution Rate (Tables 9 and 11). The sources of actuarial gains and losses during the year are shown on Table 10. Each table is described below in more detail.

#### Actuarial Balance Sheet

Table 8 shows the assets and benefit obligations used to determine the Accrued Benefit Funding Ratio and Projected Benefit Funding Ratio. It shows any shortfall or surplus of assets compared to obligations on a current basis, comparing Current Assets (the actuarially smoothed value) to Current Benefit Obligations. It also compares assets and benefit obligations on a projected basis, taking into account the present value of future benefit accruals and future contributions.

Current Benefit Obligations are the actuarial accrued liability generated by the Projected Unit Credit Funding Method. The Projected Unit Credit funding method calculates liabilities using projected pay and "accrued" service on the valuation date. Projected Benefit Obligations are benefit liabilities based on both projected pay and service without regard to any spreading of costs. The projected assets take into the present value of future member and employer contributions for normal cost plus future employer "supplemental" contributions. Supplemental contributions are the amount of statutory employer and member contributions in excess of the required contributions for Normal Cost and expenses.

#### Unfunded Actuarial Accrued Liability

Table 9 shows the derivation of the Unfunded Actuarial Accrued Liability under the Entry Age Normal Actuarial Cost Method, which is the funding method used by the Fund. Under this method costs are spread as a level percentage of payroll starting when each member enters into the plan. The unfunded actuarial accrued liability is amortized over a period to July 1, 2037 (31 years) as a level percentage of payroll.

#### **Actuarial Gains and Losses**

Changes in the Unfunded Actuarial Accrued Liability (UAAL) during the year are shown in Table 10. The UAAL increased from \$138,429,000 last year to \$1,523,637,000 this year. The increase in the UAAL was due to the result of plan changes, the merger of MTRFA into the TRA Fund, and other experience factors including salary increases greater than expected and a net investment loss on the value of assets under the actuarial asset smoothing methodology.

#### Determination of Contribution Sufficiency

Table 11 shows a comparison of statutory and required contribution rates for the fund. The required contribution rate consists of an amount to pay the plan's Normal Cost for the year, an allocation for administrative expenses, and a supplemental payment toward amortization of the Unfunded Actuarial Accrued Liability (UAAL). The UAAL is amortized as a level percent of payroll over a period ending July 1, 2037 (31 years from the July 1, 2006 valuation date).

# TABLE 8 Actuarial Balance Sheet JULY 1, 2006

		(Dollars in Thousands)		
Α.	CURRENT ASSETS (TABLE 1, F7)			\$ 19,037,046
B.	EXPECTED FUTURE ASSETS			
	<ol> <li>Present Value of Expected Future Statutory Supplemental Contributions</li> </ol>			\$ 942,441
	2. Present Value of Future Normal Costs			3,215,777
	3. Total Expected Future Assets			\$ 4,158,218
C.	TOTAL CURRENT AND EXPECTED FUTURE	ASSETS		3.215,777         \$ 4,158,218         \$ 23,195,264         Vested       Total         11,674,339       \$ 11,674,339         158,313       158,313         640,614       640,614         344,166       344,166         35,186       35,186         6,243,066       6,282,950         0       105,499
		Non-Vested	Vested	Total
D.	CURRENT BENEFIT OBLIGATIONS			
	1. Benefit Recipients*			
	a. Retirement Annuities	\$ 0	\$ 11,674,339	\$ 11,674,339
	b. Disability Benefits	0	158,313	158,313
	c. Surviving Spouse and Child Benefits	0	640,614	640,614
	2. Deferred Retirements with Augmentation	0	344,166	344,166
	3. Former Members without Vested Rights	0	35,186	35,186
	4. Active Members			
	a. Retirement Annuities	39,884	6,243,066	6,282,950
	b. Disability Benefits	105,499	0	105,499
	c. Survivors' Benefits	47,392	0	47,392
	d. Deferred Retirements	6,721	337,226	343,947
	e. Refund Liability Due			
	to Death or Withdrawal	0		68,708
	5. Total Current Benefit Obligations	\$ 199,496	\$ 19,501,618	\$ 19,701,114
E.	EXPECTED FUTURE BENEFIT OBLIGATIONS	;		4,075,346
F.	TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS			\$ 23,776,460
G.	UNFUNDED CURRENT BENEFIT OBLIGATIO	NS (D5 - A)		\$ 664,068
H.	UNFUNDED CURRENT BENEFIT OBLIGATION AND EXPECTED UNFUNDED FUTURE BENE		ONS (F - C)	\$ 581,196

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# TABLE 9 Determination of Unfunded Actuarial Accrued Liability (UAAL) and Supplemental Contribution Rate JULY 1, 2006

		(Dollars in Thousands)		
		Actuarial Present Value of Projected Benefits	Actuarial Present Value of Future Normal Costs	Actuarial Accrued Liability
		(1)	(2)	(3) = (1) - (2)
4	<ul> <li>DETERMINATION OF ACTUARIAL ACCRUED</li> <li>LIABILITY (AAL)</li> <li>1. Active Members <ul> <li>a. Retirement Annuities</li> <li>b. Disability Benefits</li> <li>c. Survivor Benefits</li> <li>d. Deferred Retirements</li> <li>e. Refund due to Death or Withdrawal</li> <li>f. Total</li> </ul> </li> <li>2. Deferred Retirements with <ul> <li>Totan</li> </ul> </li> </ul>	\$ 9,900,043 190,304 85,968 621,192 126,334 \$ 10,923,841 244,166	<pre>\$ 2,498,211 78,112 36,857 346,462 256,135 \$ 3,215,777</pre>	<pre>\$ 7,401,832 112,192 49,111 274,730 (129,801) \$ 7,708,064</pre>
	<ul> <li>Future Augmentation</li> <li>Former Members without Vested Rights</li> <li>Annuitants in MPRIF</li> <li>Recipients not in MPRIF</li> </ul>	344,166 35,186 12,305,563 <u>167,704</u>	0 0 0 0	344,166 35,186 12,305,563 <u>167,704</u>
(	6. Total	\$ 23,776,460	\$ 3,215,777	\$ 20,560,683
· · · · · · · · · · · · · · · · · · ·	<ol> <li>DETERMINATION OF UNFUNDED AAL</li> <li>AAL (A6)</li> <li>Current Assets (Table 1, F7)</li> <li>UAAL (B1-B2)</li> <li>Ratio of Assets to AAL (B2)/(B1)</li> </ol>			\$ 20,560,683 <u>19,037,046</u> \$ 1,523,637 92.59%
	<ul> <li>DETERMINATION OF SUPPLEMENTAL CONT (STATUTORY AMORTIZATION DATE)</li> <li>1. Present Value of Future Payrolls Through th Amortization Date of July 1, 2037 (31 Years</li> <li>2. Supplemental Contribution Rate (B3/C1)</li> </ul>	e		\$ 70,860,243 2.15%
	<ul> <li>DETERMINATION OF SUPPLEMENTAL CONT (GASB 25 30-YEAR AMORTIZATION PERIOD)</li> <li>1. Present Value of Future Payrolls Through th Amortization Date of July 1, 2036 (30 Years</li> <li>2. Supplemental Contribution Rate (B3/D1)</li> </ul>	e		\$ 69,520,828 2.19%

MINNESOTA TEACHERS RETIREMENT FUND JULY 1, 2006 VALUATION REPORT 30 IV. FUNDING STATUS

# TABLE 9 Determination of Unfunded Actuarial Accrued Liability (UAAL) and Supplemental Contribution Rate JULY 1, 2006

### (Continued)

	(D	Oollars in Thousand	s)
	Actuarial	Actuarial	
	Present Value	Present Value	Actuarial
	of Projected	of Future	Accrued
	Benefits	Normal Costs	Liability
	(1)	(2)	(3) = (1) - (2)
E. BREAKOUT OF ACTUARIAL ACCRUED			•
LIABILITY (AAL) - <u>NON-MTRFA MEMBERS</u>			
1. Active Members			
a. Retirement Annuities	\$ 9,332,825	\$ 2,351,501	\$ 6,981,324
b. Disability Benefits	178,813	73,651	105,162
c. Survivor Benefits	80,748	34,837	45,911
d. Deferred Retirements	589,322	328,325	260,997
e. Refund due to Death or Withdrawal	122,390	244,490	(122,100)
f. Total	\$ 10,304,098	\$ 3,032,804	\$ 7,271,294
2. Deferred Retirements with			
Future Augmentation	292,138	0	292,138
3. Former Members without Vested Rights	31,735	0	31,735
4. Annuitants in MPRIF	10,926,293	0	10,926,293
5. Recipients not in MPRIF	154,594	0	154,594
6. Total	\$ 21,708,858	\$ 3,032,804	\$ 18,676,054
F. BREAKOUT OF ACTUARIAL ACCRUED			
LIABILITY (AAL) - <u>MTRFA MEMBERS</u>			
1. Active Members			
a. Retirement Annuities	\$ 567,218	\$ 146,710	\$ 420,508
b. Disability Benefits	11,491	4,461	7,030
c. Survivor Benefits	5,220	2,020	3,200
d. Deferred Retirements	31,870	18,137	13,733
e. Refund due to Death or Withdrawal	3,944	11,645	(7,701)
f. Total	\$ 619,743	\$ 182,973	\$ 436,770
2. Deferred Retirements with			
Future Augmentation	52,028	0	52,028
3. Former Members without Vested Rights	3,451	0	3,451
4. Annuitants in MPRIF	1,379,270	0	1,379,270
5. Recipients not in MPRIF	13,110	0	13,110

31 IV. FUNDING STATUS

#### TABLE 10 Changes in Unfunded Actuarial Accrued Liability (UAAL) YEAR ENDING JUNE 30, 2006

		(Dollar	s in Thousands)
Α.	UAAL AT BEGINNING OF YEAR	\$	138,429
В.	<ul> <li>CHANGE DUE TO INTEREST REQUIREMENTS</li> <li>AND CURRENT RATE OF FUNDING</li> <li>1. Normal Cost and Expenses</li> <li>2. Contribution</li> <li>3. Interest at 8.50% per annum on A, B1and B2</li> <li>4. Total (B1 + B2 + B3)</li> </ul>	\$	322,586 (356,107) 10,342 (23,179)
C.	EXPECTED UAAL AT END OF YEAR (A + B4)	\$	115,250
D.	<ul> <li>INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED</li> <li>1. Salary Increases</li> <li>2. Investment Return</li> <li>3. MPRIF Mortality*</li> <li>4. Mortality of Other Benefit Recipients*</li> <li>5. Other Items</li> <li>6. Total</li> </ul>	\$	270,555 127,224 (729) 0 (159,300) 237,750
E.	UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTIONS AND METHODS (C + D6)	\$	353,000
F.	INCREASE (DECREASE) IN UAAL DUE TO PLAN AMENDMENTS		214,859
G.	INCREASE (DECREASE) IN UAAL DUE TO CHANGES IN ACTUARIAL METHODS		0
H.	INCREASE (DECREASE) IN UAAL DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS		0
I.	INCREASE (DECREASE) IN UAAL DUE TO MERGER WITH MTRFA	<u></u>	955,778
J.	UAAL AT END OF YEAR (E + F + G + H + I)	\$	1,523,637

Items A-H reflect the impact of changes and plan experience for TRA before the merger with MTRFA.

\* As calculated by Joint Pension Board actuary.

#### TABLE 11 Determination of Contribution Sufficiency JULY 1, 2006

		(Dollars in T	housands)
		Percentage	Dollar
		of Payroll	Amount
Α.	STATUTORY CONTRIBUTIONS – CHAPTER 354 (TOTAL)		
		5.51 %	\$ 206.374
	1. Employee Contributions		· · · · · ·
	2. Employer Contributions	5.22	195,455
	3. Supplemental Contributions:		
	a. 1993 Legislation	0.13	5,000
	b. 1996 Legislation	0.08	3,000
	c. 1997 Legislation	0.36	13,314
	4. Total Statutory Contributions	11.30 %	\$ 423,143
B.	<b>REQUIRED CONTRIBUTIONS – CHAPTER 356</b>		
	(TOTAL)		
	1. Normal Cost		
	a. Retirement Annuities	7.65 %	\$ 286,373
	b. Disability Benefits	0.22	8,126
	c. Survivor Benefits	0.10	3,829
	d. Deferred Retirements	0.97	36,463
	e. Refund due to Death or Withdrawal	0.71	26,568
	f. Total Normal Cost	9.65 %	\$ 361,359
	2. Supplemental Contribution:		
	Amortization by July 1, 2037 of UAAL	2.15	80,474
	3. Allowance for Administrative Expenses	0.32	11,978
	4. Total Required Contributions	12.12 %	\$ 453,811
C.	CONTRIBUTION SUFFICIENCY (DEFICIENCY) (A4-B4) (TOTAL)	(0.82) %	\$ (30,668)

Note: Projected annual payroll for fiscal year beginning on July 1, 2006 is \$3,742,970,000.

#### TABLE 11 Determination of Contribution Sufficiency JULY 1, 2006

		(Continued)				
			(Dollar	s in Tł	nousa	nds)
			Percentag of Payrol		1	Dollar Amount
D.	• • • • • •	JTORY CONTRIBUTIONS – CHAPTER 354 MTRFA)				
	1. En	ployee Contributions	5.50	%	\$	194,195
	2. En	ployer Contributions	5.00			176,541
	3. To	tal Contributions	10.50	%	\$	370,736
E.	(NON-	IRED CONTRIBUTIONS – CHAPTER 356 MTRFA) ormal Cost				
	a.	Retirement Annuities	7.59	%	\$	267,864
	b.	Disability Benefits	0.22			7,612
	c.	Survivor Benefits	· 0.10			3,599
	d.	Deferred Retirements	0.98			34,447
	e.	Refund due to Death or Withdrawal	0.72			25,330
	f.	Total Normal Cost	9.61	%	\$	338,852

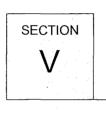
Note: Projected annual payroll for fiscal year beginning on July 1, 2006 is \$3,530,813,000 for non-MTRFA employees.

#### TABLE 11 Determination of Contribution Sufficiency JULY 1, 2006

	(Continued)			
		•	Thousands)	
		Percentage	Dollar	
_		of Payroll	Amount	
F.	STATUTORY CONTRIBUTIONS – CHAPTER 354 (MTRFA)			
	1. Basic Members			
	a. Employee Contributions	9.00 %	\$ 1,31	3
	b. Employer Contributions	12.64	1,84	14
	c. Total Basic Contributions	21.64 %	\$ 3,15	57
	2. Coordinated Members			
	a. Employee Contributions	5.50 %	\$ 10,86	66
	b. Employer Contributions	8.64	17,07	0
	c. Total Coordinated Contributions	14.14 %	\$ 27,93	6
	3. Total MTRFA Contributions			
	a. Employee Contributions	5.74 %	\$ 12,17	'9
	b. Employer Contributions	8.92	18,91	<u>4</u>
	c. Total MTRFA Contributions	14.66 %	\$ 31,09	3
G.	REQUIRED CONTRIBUTIONS – CHAPTER 356			
	(MTRFA)			
	1. Normal Cost			
	a. Retirement Annuities	8.72 %	\$ 18,50	19
	b. Disability Benefits	0.24	51	4
	c. Survivor Benefits	0.11	23	0
	d. Deferred Retirements	0.95	2,01	6
	e. Refund due to Death or Withdrawal	0.58	1,23	9
	f. Total Normal Cost	10.60 %	\$ 22,50	8

Note: Projected annual payroll for fiscal year beginning on July 1, 2006 is \$14,590,000 for MTRFA Basic Members and \$197,567,000 for MTRFA Coordinated Members.

MINNESOTA TEACHERS RETIREMENT FUND JULY 1, 2006 VALUATION REPORT



# ACTUARIAL ASSUMPTIONS AND METHODS

#### Statutes and Standards

Actuarial methods, assumptions and techniques are governed by the Minnesota Statutes and the Standards for Actuarial Work established by the State of Minnesota Legislative Commission on Pensions and Retirement. Currently these call for the use of a preretirement interest rate of 8.5%, and a post-retirement interest rate of 6.0%.

The salary scale assumption is comprised of two components: a 5.00% inflation component and a merit and longevity scale that varies on the basis of the member's age and service.

The actuarial method required to determine contributions, also governed by the Statutes and Standards, is the Entry Age Normal Actuarial Cost Method. Under this method normal costs are determined in a manner that spreads costs as a level percentage of payroll. Unfunded liabilities are amortized to July 1, 2037 as a level percentage of total payroll assuming 5% payroll growth.

#### Summary

Tables summarizing the assumptions and methods used in the valuation follows.

# TABLE 12Summary of Actuarial Assumptions and Methods

Pre-Retirement: 8.5% per annum

Post-Retirement: 6% per annum

Interest:

Salary Increases:

Mortality:

#### Pre-Retirement:

service.

Male - 1983 GAM (Male table) set back 12 years

Ten-year select (based on service) and ultimate table. Reported salary for prior fiscal year, with new hires annualized, increased according to ultimate rates in Table 12C to the current fiscal year and annually for each future year. During the ten-year select period, a factor is added to the ultimate rates. The factor is 0.3% times the excess of 10 minus the number of completed years of

Female – 1983 GAM (Female table) set back 10 years

Post-Retirement:

Male – Same as above, except set back 6 years

Female – Same as above, except set back 3 years

#### Post-Disability:

Male -1965 Railroad Retirement Board Mortality for Disabled Annuitants up to age 54. For ages 55 -64, graded rates between the 1965 Railroad Retirement Board and the Post-Retirement mortality assumption. For ages 65 and older, the Post-Retirement mortality table.

Female – 1965 Railroad Retirement Board Mortality for Disabled Annuitants up to age 54. For ages 55 – 64, graded rates between the 1965 Railroad Retirement Board and the Post-Retirement mortality assumption. For ages 65 and older, the Post-Retirement mortality table.

Revert to post-retirement assumption at retirement.

Graded rates beginning at age 55 as shown in the rate Table 12A

#### First three (3) years of employment:

Gender	Sep	Separation Rates by Year				
	1	2	3			
Male	45%	12%	6%			
Female	40%	10%	8%			

Thereafter: Shown in Table 12A.

38

Retirement Age:

Separation:

#### TABLE 12 Summary of Actuarial Assumptions and Methods (Continued)

prior year payroll (.33% of payroll).

Disability:

Shown in Table 12A.

of 8.50%.

Service Annuity.

Expenses:

Return of Contributions:

Family Composition:

**Combined Service Annuity** 

Benefit Increases After Retirement:

Joint and Survivor Elections:

Married Members assumed to elect the subsidized joint and survivor form of annuity as follows:

Payment of earnings on retired reserves in excess of 6%

accounted for by 6% post-retirement interest rate assumption.

Prior year administrative expenses expressed as percentage of

All employees withdrawing after becoming eligible for a deferred benefit were assumed to take the larger of their contributions accumulated with 6% interest or the value of their deferred benefits. IMP participants are assumed to receive interest credits

85% of male Members and 65% of female Members are assumed married. Wives are assumed to be three years younger than their

Liabilities for active and deferred vested participants are increased by 1.4% and 4.0%, respectively to account for the effect of some members having eligibility for the Combined

husbands. Members are assumed to have no children.

Males—15% elect 50% J&S option; 25% elect 75% J&S option; 55% elect 100% J&S option;

Females—20% elect 50% J&S option; 10% elect 75% J&S option; 30% elect 100% J&S option.

Actuarial Cost Method:

Entry Age Normal Actuarial Cost Method with normal costs expressed as a level percentage of earnings. Under this method Actuarial Gains (losses) reduce (increase) the Unfunded Actuarial Accrued Liability.

MINNESOTA TEACHERS RETIREMENT FUND JULY 1, 2006 VALUATION REPORT

#### TABLE 12 Summary of Actuarial Assumptions and Methods (Continued)

Asset Valuation Method:

Payment on the Unfunded Actuarial Accrued Liability:

Market Value, adjusted for amortization obligations receivable at the end of each fiscal year, less a percentage of the unrecognized asset return determined at the close of each of the preceding four fiscal years. Unrecognized asset return is the difference between actual and expected net return on the Market Value of Assets. Transition rules were in effect between July 1, 2000 and July 1, 2003.

Level percentage of payroll each year to the statutory amortization date (July 1, 2037) assuming total payroll increases of 5% per annum. If there is a negative Unfunded Actuarial Accrued Liability, the surplus amount shall be amortized over 30 years as a level percentage of payroll.

		IREMENT ATH	WITHD	RAWAL	DISA	BILITY		RETIR	EMENT	
							MTRFA BASIC		OTHER	
AGE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	Less Than 30Yrs Service	30 or More Yrs Service	Rule of 90	Other
20	.03%	.01%	3.70%	4.50%	.00%	.00%	0%	0%	0%	0%
21	.03	.01	3.60	4.50	.00	.00	0	0	0	0
22	.03	.01	3.50	4.50	.00	.00	0 ·	0	0	Ō
23	.03	.01	3.40	4.50	.00	.00	0	0	0	0
24	.03	.01	3.30	4.50	.00	.00	0	0	0	0
25	.03	.01	3.20	4.50	.00	.00	0	0	0	0
26	.03	.01	3.10	4.50	.00	.00	0	0	0	0
27	.03	.02	3.00	4.50	.00	.00	0	0	0	0
28	.03	.02	2.90	4.50	.00	.00	0	0	0	0
29	.03	.02	2.80	4.50	.00	.00	0	0	0	0
30	.04	.02	2.70	4.50	.00	.00	0	0	0	0
31	.04	.02	2.60	4.50	.01	.01	0	0	0	0
32	.04	.02	2.50	4.50	.01	.01	0	0	0	0
33	.04	.02	2.50	4.30	.01	.01	0	0	0	0
34	.04	.02	2.50	4.10	.01	.01	0	0	0	0
35	.04	.03	2.50	3.90	.01	.01	0	0	0	0
36	.04	.03	2.50	3.70	.02	.02	0	0	0	0
37	.05	.03	2.50	3.50	.02	.02	0	0	0	0
- 38	.05	.03	2.45	3.25	.02	.02	0	0	0	0
39	.05	.03	2.40	3.00	.02	.02	0	0	0	0
40	.05	.03	2.35	2.75	.03	.03	0	0	0	0
41	.06	.04	2.30	2.50	.03	.03	0	0	0	0
42	.06	.04	2.25	2.25	.03	.03	0	0	0	0
43	.06	.04	2.20	2.20	.04	.04	0	0	0	0
44	.07	.04	2.15	2.15	.04	.04	0	0	0	0
45	.07	.05	2.10	2.10	.05	.05	40	0	0	0
46	.08	.05	2.05	2.05	.06	.06	40	0	0	0
47	.09	.05	2.00	2.00	.07	.07	40	0	0	0
48	.09	.06	1.95	1.95	.08	.08	40	0	0	0
49	.10	.06	1.90	1.90	.09	.09	40	0	0	0

#### TABLE 12A Probabilities of Separation

MINNESOTA TEACHERS RETIREMENT FUND JULY 1, 2006 VALUATION REPORT

#### TABLE 12A Probabilities of Separation (Continued)

	PRERETIREMENT									
			WITHD	RAWAL	DISA	BILITY	RETIRE		EMENT	
							MTRFA BASIC		OTHER	
AGE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	Less Than 30Yrs Service	30 or More Yrs Service	Rule of	Other
50	.10%	.07%	1.85%	1.85%	.11%	.10%	40%	0%	0%	0%
51	.11	.07	1.80	1.80	.13	.11	40	0	0	0
52	.12	.08	1.75	1.75	.15	.12	40	0 0	Ő	Õ
53	.12	.08	1.70	1.70	.13	.13	40	0	0 0	0
54	.15	.09	1.65	1.65	.19	.14	40	0	0	0
55	.17	.10	.00	.00	.22	.16	40	0	50	9
56	.19	.11	.00	.00	.24	.18	40	0	50	9
57	.22	.12	.00	.00	.26	.20	40	0	50	9
58	.25	.14	.00	.00	.28	.22	40	0	50	9
59	.28	.15	.00	.00	.30	.24	40	0	50	12
60	.31	.16	.00	.00	.33	.25	25	0	50	12
61	.35	.18	.00	.00	.37	.26	25	0	50	20
62	.39	.19	.00	.00	.41	.27	25	0	50	20
63	.43	.21	.00	.00	.46	.28	25	0	50	20
64	.48	.23	.00	.00	.52	.29	25	0	50	20
65	.52	.25	.00	.00	.00	.00	40	0	50	50
66	.57	.28	.00	.00	.00	.00	40	0	35	35
67	.61	.31	.00	.00	.00	.00	40	0	35	35
68	.66	.34	.00	.00	.00	.00	40	0	35	35
69	.71	.38	.00	.00	.00	.00	40	0	35	35
70	.77	.42	.00	.00	.00	.00	60	0	35	35

MINNESOTA TEACHERS RETIREMENT FUND JULY 1, 2006 VALUATION REPORT

V. ACTUARIAL ASSUMPTIONS AND METHODS

42

		OF LIFE CTANCY		YEARS OF LIFE EXPECTANCY	
AGE	MALE	FEMALE	AGE	MALE	FEMALE
50	34.68	37.77	80	10.72	12.03
51	33.74	36.81	81	10.15	11.40
52	32.82	35.86	82	9.60	10.79
53	31.90	34.92	83	9.08	10.20
54	30.98	33.97	84	8.57	9.63
55	30.08	33.03	. 85	8.10	9.09
56	29.18	32.10	86	7.64	8.57
57	28.30	31.16	87	7.21	8.07
58	27.42	30.24	88	6.81	7.58
59	26.55	29.31	89	6.43	7.11
60	25.68	28.39	90	6.07	6.66
61	24.83	27.48	91	5.73	6.23
62	23.98	26.57	92	5.41	5.81
63	23.13	25.67	93	5.10	5.41
64	22.29	24.78	94	4.82	5.02
65	21.46	23.89	95	4.54	4.66
66	20.64	23.02	96	4.28	4.31
67	19.83	22.15	97	4.04	3.98
68	19.02	21.29	98	3.80	3.67
69	18.23	20.43	99	3.58	3.37
70	17.45	19.59	100	3.37	3.10
71	16.69	18.76	101	3.16	2.84
72	15.95	17.94	102	2.98	2.60
73	15.23	17.13	103	2.80	2.36
74	14.52	16.34	104	2.62	2.14
75	13.84	15.57	105	2.45	1.94
76	13.18	14.81	106	2.28	1.74
77	12.54	14.08	107	2.11	1.55
78	11.92	13.38	108	1.94	1.37
79	11.31	12.69	109	1.77	1.19

# TABLE 12BYears of Life Expectancy After Service Retirement

1983 GAM Male set back 6 years. 1983 GAM Female set back 3 years.

### TABLE 12C Salary Increase by Age

	TOTAL SALARY		TOTAL SALARY
AGE	INCREASE	AGE	INCREASE
20	6.00%	46	5.10%
21	6.00	47	5.00
22	6.00	48	5.00
23	6.00	49	5.00
24	6.00	50	5.00
25	6.00	51	5.00
- 26	6.00	52	5.00
27	6.00	53	5.00
28	6.00	54	5.00
29	6.00	55	5.00
30	6.00	56	5.00
31	6.00	57	5.00
32	6.00	58	5.10
33	6.00	59	5.20
34	6.00	60	5.30
		<i></i>	<b>.</b>
35	6.00	61	5.40
36	6.00	62	5.50
37	6.00	63	5.60
38	5.90	64	5.70
39	5.80	65	5.70
40			6 70
40	5.70	66	5.70
41	5.60	67	5.70
42	5.50	68	5.70
43	5.40	69	5.70
44	5.30	70	5.70
45	5.20		

MINNESOTA TEACHERS RETIREMENT FUND JULY 1, 2006 VALUATION REPORT

SECTION

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# SUMMARIES OF PLAN PROVISIONS

Eligibility

Contributions

Allowable Service

Salary

Average Salary

#### Retirement

<u>Retirement Benefit</u>

Normal Retirement Eligibility

Early Retirement Eligibility

A public school or MnSCU teacher who is not covered by the Social Security Act, except for teachers employed by St. Paul or Duluth public schools or by the University of Minnesota.

No community college teacher is a Member if that person elects coverage under Chapter 354B.

Member: 9.00% of Salary Employer: 9.00% of Salary

A day of credit is earned if 5 hours are taught that day. A year is earned if 170 days of service are credited. Credit may also be provided for certain leaves if contributions are paid into the fund.

Compensation used for contribution purposes excluding lump sum annual or sick leave payments, severance payments, any payments made in lieu of employer paid fringe benefits or expenses, and employer contributions to a Section 457 deferred compensation plan.

Average of the 5 highest successive years of Salary. Average Salary must be based on all years of Allowable Service if less than 5 years.

Age 65 and 3 years of Allowable Service. Age 62 with 30 years of Allowable Service. Proportionate Retirement Annuity is available at age 65 and 1 year of Allowable Service.

Age 55 and 3 years of Allowable Service. Any age with 30 years of Allowable Service. Rule of 90: Age plus Allowable Service totals 90.

The greater of:

2.20% of Average Salary for the first 10 years of Allowable Service and 2.70% of Average Salary for each subsequent year with reduction of 0.25% for each month the Member is under age 65 at time of retirement or under age 62 if 30 years of Allowable Service. No reduction if age plus years of Allowable Service totals 90,

Or

2.70% of Average Salary for each year of Allowable Service assuming augmentation to age 65 at 3% per year and actuarial reduction for each month the Member is under age 65.

Or

For eligible Members, money purchase annuity equal to the actuarial equivalent of 220% of the Member's accumulated contributions with interest.

#### Life annuity.

Actuarially equivalent options are:

- 50%, 75% or 100% joint and survivor with bounce back feature without additional reduction (option is canceled if Member is pre-deceased by beneficiary)
- 15 year certain and life
- Guaranteed refund.

Benefits may be increased each January 1 based on a formula in Minnesota Statute consisting of both an inflation component and an investment based component of the Minnesota Post Retirement Investment Fund (MPRIF). A Member who has been receiving a benefit for at least 12 full months as of the previous June 30 will receive a full increase. Members receiving benefits for at least 1 full month but less than 12 full months as of the previous June 30 will receive a partial pro rata increase.

Amount

Form of Payment

Benefit Increases

### Disability Disability Benefit Eligibility

Amount

Form of Payment

Benefit Increases

Retirement After Disability Eligibility

Amount

**Benefit Increases** 

Total and permanent disability before normal retirement age with 3 years of Allowable Service.

Normal Retirement Benefit based on Allowable Service and Average Salary at disability without reduction for commencement before normal retirement age unless an optional annuity plan is selected. Supplemental benefit of \$25 per month to age 65 or the five year anniversary of the effective date of the disability benefit, whichever is later. Payments stop at normal retirement age or the five year anniversary of the effective date of the disability benefit, whichever is later. Payments stop earlier if disability ceases or death occurs. Benefits may be reduced upon resumption of partial employment. If death occurs before retirement status, the surviving spouse and dependent children are eligible for survivor benefits.

Same as for retirement.

Adjusted by TRA to provide same increase as MPRIF.

Normal retirement age or the five year anniversary of the effective date of the disability benefit, whichever is later.

Any optional annuity continues. Otherwise the larger of the disability benefit paid before normal retirement age or the normal retirement benefit available at normal retirement age, or an actuarially equivalent optional annuity.

Same as for retirement.

MINNESOTA TEACHERS RETIREMENT FUND JULY 1, 2006 VALUATION REPORT

Death

<u>Surviving Spouse Benefit</u> Eligibility

Amount

Surviving Dependent Children's Benefit Eliqibility

Amount

Surviving Spouse Optional Annuity Eligibility

Amount

Active Member with 18 months of Allowable Service or Member receiving a disability benefit.

50% of Salary paid during the last full fiscal year preceding death. Maximum family benefit is \$1,000 per month. Benefits paid until spouse's death.

Surviving spouse optional annuity or a refund of contributions may be elected in lieu of this benefit.

Active Member with 18 months of Allowable Service or Member receiving a disability benefit.

10% of Salary paid during the last full fiscal year preceding death. Family benefit minimum (including spouse's benefit) of 50% of Salary and maximum of \$1,000 per month. Benefits paid until child marries, dies, or attains age 18 (age 22 if full time student).

Any active Member or former Member with 3 years of Allowable Service, who dies before retirement benefits commence.

Survivor's payment of the 100% joint and survivor benefit the Member could have elected if retired or an actuarially equivalent 5-, 10-, 15- or 20-year term annuity, if elected.

Upon the death of any member under age 55, the benefit is reduced based on the plan's early retirement reduction to age 55 and further reduced below age 55 using 50% of the otherwise applicable early retirement factors. If no surviving spouse, then an actuarially equivalent dependent child benefit is paid to age 20 or for five years, if longer.

Benefit Increases

<u>Refund of Contributions</u> Eligibility

Amount

Termination Refund of Contributions

Eligibility

Amount

**Deferred Benefit** 

Eligibility

Amount

Adjusted by TRA to provide same increase as MPRIF except surviving spouse optional annuity increases which are paid from MPRIF.

Member dies before receiving any retirement benefits and survivor benefits are not elected.

The excess of the Member's contributions over any disability benefits paid plus 6% interest, compounded annually, if death occurred on or after May 16, 1989.

Thirty days following termination of teaching service.

Member's contributions with 6% interest compounded annually if termination occurred on or after May 16, 1989. A deferred annuity may be elected in lieu of a refund.

Vested at time of termination. The current requirement is 3 years of Allowable Service.

Benefit computed under law in effect at termination and increased by the following annual percentage: 0% before 7/1/71, 5% from 7/1/71 to 1/1/81, and 3% thereafter until January 1 of the year following attainment of age 55 and 5% thereafter until the annuity begins. Amount is payable as a normal or early retirement.

#### Or

For eligible Members, money purchase annuity equal to the actuarial equivalent of 220% of the Member's accumulated contributions with interest.

#### Summary of Significant Changes

There have been no changes in the Plan Provisions since the last valuation.

#### TABLE 13B Summary of Plan Provisions - MTRFA BASIC MEMBERS -

Eligibility

Contributions

Teaching Service

Salary

Average Salary

#### Retirement

#### Retirement Benefit

Normal Retirement Eligibility

Normal Retirement Amount Early Retirement Eligibility

Early Retirement Amount

A teacher who is employed by the Board of Education of Special School District No. 1, other than a charter school, and who is no covered by the Social Security Act. Certain parttime licensed employees are covered as well as employees of the Minneapolis Teachers Retirement Fund.

Member: 9.00% of Salary Employer: 9.00% of Salary (9.50% after June 30, 2007) Employer Supplemental: 3.64% of Salary

A year is earned during a calendar year if the member is employed in a covered position and employee contributions are deducted. Certain part-time service and military service is also included.

Total compensation. Excludes lump sum payments for unused vacation leave or unused sick leave at separation.

Average of the 5 highest successive years of Salary.

Age 60, or any age with 30 years of Teaching Service.

2.50% of Average Salary for each year of Teaching Service.

Age 55 with less than 30 years of Teaching Service.

The greater of:

2.25% of Average Salary for each year of Teaching Service with reduction of 0.25% for each month the Member is under age first eligible for a normal retirement benefit.

#### Or

2.50% of Average Salary for each year of Teaching Service assuming augmentation to age first eligible for a normal retirement benefit at 3% per year and actuarial reduction for each month the Member is under age first eligible for a normal retirement benefit.

An alternative benefit is available to members who are at least age 50 and have 7 years of Teaching Service. The benefit is based on the accumulation of the 6.50% "city deposits" to the Retirement Fund. Other benefits are also provided under this alternative depending on the member's age and Teaching Service.

#### Life annuity.

Actuarially equivalent options are:

- 50%, 75% or 100% joint and survivor with bounce back feature without additional reduction (option is canceled if Member is pre-deceased by beneficiary)
- 10 or 15 year certain and life

Benefits may be increased each January 1 based on a formula in Minnesota Statute consisting of both an inflation component and an investment based component of the Minnesota Post Retirement Investment Fund (MPRIF). A Member who has been receiving a benefit for at least 12 full months as of the previous June 30 will receive a full increase. Members receiving benefits for at least 1 full month but less than 12 full months as of the previous June 30 will receive a partial pro rata increase.

Total and permanent disability before normal retirement age with 3 years of Teaching Service.

An annuity based on continued accumulation of member and city contributions at the current rate for a period of 15 years (but not beyond age 65) plus an additional benefit equal to the smaller of 100% of the annuity provided by the city contributions only or \$150 per month. A member with 20 years of Teaching Service also receives an additional \$7.50 per month. Benefits may be reduced on resumption of partial employment, or stopped if disability ceases or death occurs.

Same as for retirement.

Same as for retirement.

MINNESOTA TEACHERS RETIREMENT FUND JULY 1, 2006 VALUATION REPORT

Form of Payment

#### **Benefit Increases**

Disability

Disability Benefit Eligibility

Amount

Form of Payment

Benefit Increases

52 VI. SUMMARIES OF PLAN PROVISIONS

#### Death

Choice of Benefit A, B or C.

#### Benefit A

Eligibility

Amount

#### <u>Benefit B</u>

Eligibility

Amount

## Benefit C

Eligibility

Amount

#### Benefit Increases

Death before retirement.

The accumulation of member and city contributions plus 6% interest if death occurred on or after May 16, 1989. Paid as a life annuity, 15-year certain and life annuity or lump sum. If an annuity is chosen the beneficiary also receives additional benefits.

Active Member with 7 years of Teaching Service, or a former Member age 60 with 7 years of Teaching Service who dies before retirement or disability benefits begin.

The actuarial equivalent of any benefits the member could have received if he had resigned on the date of death.

Active Member who dies and leaves surviving children.

A monthly benefit of \$248.30 to the surviving widow while caring for a child and an additional \$248.30 per month for each surviving dependent child. The maximum family benefit is \$579.30 per month. These benefits may be increased by the Board of Trustees. Benefits to the widow cease upon death or when no longer caring for an eligible child. Benefits for dependent children cease upon marriage or age 18 (age 22 if a full time student).

Same as for retirement.

#### Termination

Refund of Contributions Eligibility

Amount

#### Termination of Teaching Service.

Member's contributions with 6% interest compounded annually. A deferred annuity may be elected in lieu of a refund.

#### **Deferred Benefit**

Eligibility

Amount

Seven years of Teaching Service.

Benefit computed under law in effect at termination and increased by 3% thereafter until January 1 of the year following attainment of age 55 and 5% thereafter until the annuity begins. Amount is payable as a normal or early retirement. In addition, the interest earned on the member and city contributions between termination and age 60 can be applied to provide an additional annuity.

#### Summary of Significant Changes

The employee contribution rate increased from 8.50% to 9.00% of payroll beginning July 1, 2006. The employer non-supplemental contribution rate will increase from 9.00% to 9.50% of payroll beginning July 1, 2007. The increase in the employer contribution rate is not reflected in the July 1, 2006 valuation, but will be reflected beginning with the July 1, 2007 valuation.

#### TABLE 13C

#### Summary of Plan Provisions - COORDINATED MEMBERS -

Eligibility

Contributions

Allowable Service

Salary

Average Salary

Retirement

Retirement Benefit

Normal Retirement Eligibility

A public school or MNSCU teacher who is covered under the Social Security Act, except for teachers employed by St. Paul or Duluth public schools or by the University of Minnesota.

No MNSCU teacher will become a new Member unless that person elects coverage as defined by Minnesota Statutes Chapter 354B.

Member: 5.50% of Salary Employer: 5.00% of Salary

A day of credit is earned if 5 hours are taught that day. A year is earned if 170 days of service are credited. Credit may also be provided for certain leaves if contributions are paid into the fund.

Compensation used for contribution purposes excluding lump sum annual or sick leave payments, severance payments, and any payments made in lieu of employer paid fringe benefits or expenses and employer contributions to a Section 457 deferred compensation plan.

Average of the 5 highest successive years of Salary. Average Salary must be based on all years of Allowable Service if less than 5 years.

First hired before July 1, 1989:

Age 65 and 3 years of Allowable Service. Age 62 with 30 years of Allowable Service. Proportionate Retirement Annuity is available at age 65 and 1 year of Allowable Service.

First hired after June 30, 1989:

The greater of age 65 or the age eligible for full Social Security retirement benefits (but not greater than age 66) and 3 years of Allowable Service. Proportionate Retirement Annuity is available at normal retirement age and 1 year of Allowable Service.

Early Retirement Eligibility

Amount

First hired before July 1, 1989:

Age 55 and 3 years of Allowable Service. Any age with 30 years of Allowable Service. Rule of 90: Age plus Allowable Service totals 90.

First hired after June 30, 1989:

Age 55 with 3 years of Allowable Service.

First hired before July 1, 1989:

The greater of:

1.20% of Average Salary for the first 10 years of Allowable Service, 1.70% for each subsequent year of Allowable Service prior to July 1, 2006, and 1.90% for each year of Allowable Service accrued after July 1, 2006. No reduction if age plus years of Allowable Service totals 90. Otherwise, reduction of 0.25% for each month the Member is under age 65 at time of retirement or under age 62 if 30 years of Allowable Service,

#### Or

1.70% of Average Salary for each year of Allowable Service prior to July 1, 2006 and 1.90% for each year of Allowable Service accrued after July 1, 2006, assuming augmentation to age 65 at 3% per year and actuarial reduction for each month the Member is under age 65.

#### Or

For eligible Members, money purchase annuity equal to the actuarial equivalent of 220% of the Member's accumulated contributions with interest.

#### First hired after June 30, 1989:

1.70% of Average Salary for each year of Allowable Service prior to July 1, 2006 and 1.90% for each year of Allowable Service accrued after July 1, 2006, assuming augmentation to the age eligible for full Social Security retirement benefits at 3% per year and actuarial reduction for each month the Member is under the full Social Security benefit retirement age (but not greater than age 66).

Form of Payment

Benefit Increases

## Life annuity.

Actuarially equivalent options are:

- 50%, 75% or 100% joint and survivor with bounce back feature without additional reduction (option is canceled if Member is pre-deceased by beneficiary)
- 15 year certain and life
- Guaranteed refund.

Benefits may be increased each January 1 depending on the investment performance of the Minnesota Post Retirement Investment Fund (MPRIF). A Member who has been receiving a benefit for at least 12 full months as of the previous June 30 will receive a full increase. Members receiving benefits for at least 1 full month but less than 12 full months as of the previous June 30 will receive a partial pro rata increase.

Disability

Disability Benefit Eligibility

Amount

Form of Payment

Benefit Increases

Total and permanent disability before normal retirement age with 3 years of Allowable Service.

Normal Retirement Benefit based on Allowable Service and Average Salary at disability without reduction for commencement before normal retirement age unless an optional annuity plan is elected.

Payments stop at normal retirement age or the five-year anniversary of the effective date of the disability benefit, whichever is later. Payments stop earlier if disability ceases or death occurs. Benefits may be reduced upon resumption of partial employment.

Same as for retirement.

Adjusted by TRA to provide same increase as MPRIF.

#### **Retirement After Disability**

Eligibility

Amount

Benefit Increases

#### Death

Surviving Spouse Optional Annuity Eligibility

Amount

**Benefit Increases** 

Refund of Contributions Eligibility

Amount

Normal retirement age or the five year anniversary of the effective date of the disability benefit, whichever is later.

Any optional annuity continues. Otherwise the larger of the disability benefit paid before normal retirement age or the normal retirement benefit available at normal retirement age, or an actuarially equivalent optional annuity.

Same as for retirement.

Any active Member or former Member with 3 years of Allowable Service, who dies before retirement benefits commence.

Survivor's payment of the 100% joint and survivor benefit the Member could have elected if retired or an actuarially equivalent 5-, 10-, 15- or 20-year term annuity, if elected.

If commencement is prior to age 65 (age 62 if 30 years of service), the benefit is reduced same as early retirement with half the applicable reduction factor used from age 55 to the actual commencement age. If no surviving spouse, then an actuarially equivalent dependent child benefit is paid to age 20 or for five years, if longer.

Same as for retirement.

Member dies before receiving any retirement benefits and the surviving spouse optional annuity is not elected.

The excess of the Member's contributions over any disability benefits paid with 6% interest, compounded annually if death occurred on or after May 16, 1989.

#### **Termination**

Refund of Contributions Eligibility

Amount

#### **Deferred Benefit**

Eligibility

Amount

Thirty days following termination of teaching service.

Member's contributions with 5% interest compounded annually if termination occurred before May 16, 1989, and 6% interest compounded annually if termination occurred on or after May 16, 1989. A deferred annuity may be elected in lieu of a refund.

Vested at time of termination. The current requirement is 3 years of Allowable Service.

First hired before July 1, 2006:

Benefit computed under law in effect at termination and increased by the following annual percentage: 0% before 7/1/71, 5% from 7/1/71 to 1/1/81, and 3% thereafter until January 1 of the year following attainment of age 55 and 5% thereafter until the annuity begins. Amount is payable as a normal or early retirement.

#### Or

For eligible Members, money purchase annuity equal to the actuarial equivalent of 220% of the Member's accumulated contributions with interest.

First hired after June 30, 2006:

Benefit computed under law in effect at termination and increased by 2.50% compounded annually until the annuity begins. Amount is payable as a normal or early retirement.

#### Summary of Significant Changes

The Laws of Minnesota (2006) Chapter 277 authorized the merger of the Minneapolis Teachers Retirement Fund Association (MTRFA) into TRA. All assets, liabilities, active, inactive and retired MTRFA members were transferred to TRA as of June 30, 2006.

As part of Chapter 277, all TRA Coordinated members receive an improved formula multiplier (1.7% to 1.9% per year) for years of service worked beginning and after July 1, 2006. TRA Coordinated employee contribution rates were increased 0.50% beginning July 1, 2006.

All TRA members first hired July 1, 2006 and after are eligible for a reduced deferred augmentation of 2.5% per year between date of termination and effective date of retirement. TRA members hired prior to July 1, 2006 are eligible for a deferred annuity augmentation of 3% per year prior to age 55 and 5% per year from age 55 until date of retirement.

SECTION

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# GASB 25 DISCLOSURE

#### TABLE 14

#### Schedule of Funding Progress\* (Dollars in Thousands)

Actuarial Valuation Date	Actuarial Value of Assets (A)	Actuarial Accrued Liability (AAL) (B)	Unfunded AAL (UAAL) (B-A)	Funded Ratio (A)/(B)	Actual Covered Payroll (Previous FY) (C)	UAAL as Percentage of Covered Payroll (B-A)/(C)
07/01/91	\$5,614,924	\$7,213,720	\$1,598,796	77.84%	\$1,943,375	82.27%
07/01/92	6,324,733	7,662,522	1,337,789	82.54%	1,989,624	67.24%
07/01/93	7,045,937	8,266,059	1,220,122	85.24%	2,065,881	59.06%
07/01/94	7,611,936	9,115,266	1,503,330	83.51%	2,150,300	69.91%
07/01/95	8,348,124	9,717,623	1,369,499	85.91%	2,204,693	62.12%
07/01/96	9,541,221	10,366,168	824,947	92.04%	2,268,390	36.37%
07/01/97	11,103,759	10,963,637	(140,122)	101.28%	2,359,011	(5.94)%
07/01/98	12,727,546	12,046,312	(681,234)	105.66%	2,422,957	(28.12)%
07/01/99	14,011,247	13,259,569	(751,678)	105.67%	2,625,254	(28.63)%
07/01/00	15,573,151	14,684,046	(889,105)	106.05%	2,704,575	(32.87)%
07/01/01	16,834,024	15,903,984	(930,040)	105.85%	2,812,000	(33.07 <u>)</u> %
07/01/02	17,378,994	16,503,099	(875,895)	105.31%	2,873,771	(30.48)%
07/01/03	17,384,179	16,856,379	(527,800)	103.13%	2,952,887	(17.87)%
07/01/04	17,519,909	17,518,784	(1,126)	100.01%	3,032,483	(0.04)%
07/01/05	17,752,917	18,021,410	268,493	98.51%	3,121,571	8.60%
07/01/06_	19,035,612	20,679,111	1,643,499	92.05%	3,430,645	47.91%

\*As calculated by Commission actuary and Joint Pension Board actuary.

### TABLE 15

#### Schedule of Employer Contributions\* (Dollars in Thousands)

Year Ended June 30	Actuarially Required Contribution Rate (A)	Actual Covered Payroll (B)	Actual Member Contributions (C)	Annual Required Contribution [(A)x(B)]-(C)	Actual Employer Contribution <sup>(1)</sup>	Percentage Contributed
1991	13.11%	\$1,943,375	\$89,313	\$165,463	\$159,439	96.36%
1992	13.04%	1,989,624	91,506	167,941	162,370	96.68%
1993	13.13%	2,065,881	94,709	176,541	168,071	95.20%
1994	12.75%	2,150,300	100,803	173,360	171,855	99.13%
1995	14.73%	2,204,693	143,536	181,215	179,672	99.15%
1996	14.30%	2,268,390	148,051	176,329	184,495	104.63%
1997	12.78%	2,359,011	154,161	147,321	191,670	130.10%
1998	9.55% <sup>(2)</sup>	2,422,957	124,096	107,296	151,323	141.03%
1999	8.39% <sup>(2)</sup>	2,625,254	132,040	88,219	130,526	147.96%
2000	8.36% <sup>(2)</sup>	2,704,575	138,696	87,406	134,419	153.79%
2001	7.92% <sup>(2)</sup>	2,812,000	145,075	77,635	139,799	180.07%
2002	7.85% <sup>(2)</sup>	2,873,771	152,331	73,260	142,222	194.13%
2003	7.57% <sup>(2)</sup>	2,952,887	155,577	67,957	149,481	219.96%
2004	8.37% <sup>(2)</sup>	3,032,483	159,140	94,679	151,029	159.52%
2005	8.46% <sup>(2)</sup>	3,121,571	160,982	103,103	157,693	152.95%
2006	9.05% <sup>(3)</sup>	3,430,645	177,085	133,389	179,022	134.21%

\* As calculated by Commission actuary and Joint Pension Board actuary.

(1) Includes contributions from other sources (if applicable).

(2) Actuarially Required Contribution Rate calculated according to parameters of GASB 25 using a 30-year amortization of the negative unfunded accrued liability.

(3) Actuarially Required Contributions calculated according to parameters of GASB 25 using a 30-year amortization of the negative unfunded accrued liability, and post-merger of the Minneapolis Teachers Retirement Fund Association.