December 2008

Teachers Retirement Association Fund

Actuarial Valuation Report as of July 1, 2008

MERCER

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Contents

Highlights

This report has been prepared by Mercer for the Teachers Retirement Association of Minnesota to:

- Present the results of a valuation of the Teachers Retirement Association Fund as of July 1, 2008.
- Review experience under the Plan for the year ended June 30, 2008.
- Provide reporting and disclosure information for governmental agencies and other interested parties.

Contributions

The following table summarizes important contribution information as described in the "Development of Costs" section.

	Plan Year Ending	
Contributions	**June 30, 2009**	**June 30, 2008***
Statutory Contributions – Chapter 354 (% of Payroll)	11.75%	11.79%
Required Contributions – Chapter 356 (% of Payroll)	15.08%	13.44%
Sufficiency / (Deficiency)	(3.33%)	(1.65%)

The deficiency shown above means that if all actuarial assumptions turn out to be correct in total, the Fund needs to receive 3.33% of pay more in future years than it is currently scheduled to receive. Last year, the deficiency was only half as much. The primary causes of the deficiency are:

- The low returns on assets (see below) for the year just ended, and
- The recognition of the Post Fund deficit in the plan's financial status

Without a change in contribution rates, or favorable actuarial experience, the funded status will continue to deteriorate. In addition, as of the date of this report, the assets have experienced significant losses as a result of the turmoil in the financial marketplace this fall. If not reversed, losses will further increase the deficiency.

On the other hand, we would also note that absent any additional losses, the plan has sufficient assets to pay benefits for many years into the future.

The "Plan Assets" section provides detail on the plan assets used for the valuation including a development of the actuarial value of assets. The actuarial value of assets earned (4.8%) for the plan year ending June 30, 2008 as compared to the assumed rate of 8.50%. Only 20% of the non-MPRIF asset loss is recognized in the actuarial value of assets. The reminder will be recognized over the next four years. The actuarial value of assets earned 1.8% for the plan year ending June 30, 2008 as compared to the assumed rate of 8.50%.

The integration of the Minneapolis Teacher's Retirement Fund into this Fund caused this Fund issues in terms of reconciling member demographic data. The Fund believes that no material issues remain, but the results of this valuation may be mildly inconsistent with the prior valuation as a result of the data corrections.

* *Provided by The Segal Company.*

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in plan provisions, actuarial assumptions or valuation methods and procedures between the two valuations are described after the summary.

	Actuarial Valuation as of	
	July 1, 2008	**July 1, 2007***
Contributions *(% of Payroll)*		
Statutory – Chapter 354	11.75%	11.79%
Required – Chapter 356	15.08%	13.44%
Sufficiency / (Deficiency)	(3.33%)	(1.65%)
Funding Ratios *(dollars in thousands)*		
Accrued Benefit Funding Ratio		
– Current assets (AVA)	$ 18,226,985	$ 18,794,389
– Current benefit obligations	21,318,311	20,646,891
– Funding ratio	85.50%	91.03%
Accrued Liability Funding Ratio		
– Current assets (AVA)	$ 18,226,985	$ 18,794,389
– Actuarial accrued liability	22,230,841	21,470,314
– Funding ratio	81.99%	87.54%
Projected Benefit Funding Ratio		
– Current and expected future assets	$ 22,654,296	$ 23,435,933
– Current and expected future benefit obligations	24,993,892	24,602,816
– Funding ratio	90.64%	95.26%
Participant Data		
Active members		
– Number	76,515	77,694
– Projected annual earnings *(000s)*	3,846,190	3,814,374
– Average annual earnings *(projected)*	50,267	49,095
– Average age	43.4	43.3
– Average service	11.9	11.7
Service retirements	43,041	42,679
Survivors	3,299	3,223
Disability retirements	641	636
Deferred retirements	12,168	12,636
Terminated other non-vested	22,115	22,914
Total	**157,779**	**159,782**

* *Provided by The Segal Company*

Effects of Changes

The following changes in assumptions were adopted as of July 1, 2008:

- The ultimate salary increase rates were lowered by 0.50% at all ages.
- The payroll growth assumption was reduced from 5.0% to 4.5%.
- Retirement rates were increased at ages 56 and 57 for Rule of 90 retirements, and reduced at ages 55 to 59, 61 and 65 for all other retirements.

These assumption changes had the following impact on the valuation results:

- A $103 million decrease in actuarial accrued liability.
- A decrease in the required contribution of 0.28% of payroll.

The basis for determining benefit increases for benefit recipients was revised since the previous valuation on July 1, 2007. See the Summary of Plan Provisions for detail. This change in plan provisions had no effect on the results in this valuation.

Certification

We have prepared an actuarial valuation of the Teachers Retirement Association Fund as of July 1, 2008 for the plan year ending June 30, 2009. This report reflects the provisions of the Plan effective July 1, 2008. To the best of our knowledge, this actuarial valuation was performed in accordance with the requirements of Minnesota Statutes, Section 356.215 and the requirements of the Standards of Actuarial Work established by the Minnesota Legislative Commission on Pensions and Retirement.

This report has been prepared exclusively for the Teachers Retirement Association of Minnesota and the Legislative Commission on Pensions and Retirement to determine the annual required contribution and present accounting results required under GASB Nos. 25 (as amended by GASB 50) and 27. Mercer is not responsible for consequences arising from the use of any elements of this report for any other than their intended purpose. Determinations for other purposes may be significantly different from the results shown in this report.

A valuation report is a snapshot of a plan's estimated financial condition at a particular point in time; it is neither a prediction of a pension plan's future financial condition nor a prediction of a pension plan's ability to pay benefits in the future.

Over time, a plan's total cost will depend on a number of factors, including the amount of benefits it pays, the number of people to whom it pays them, and the amount earned on any assets invested to pay the benefits. These amounts and others are uncertain and unknowable at the valuation date, but are predicted to fall within a reasonable range of possibilities. To prepare this report, *actuarial assumptions*, as described within, are used to select a single scenario from the range of possibilities. The results of that single scenario are included in this report. However, the future is uncertain and the plan's actual experience will differ from those assumptions; these differences may be significant or material. In addition, different assumptions or scenarios may also be within the reasonable range and results based on those assumptions would be different. Actuarial assumptions may also be changed from valuation to valuation based on experience, changes in expectations about the future, and other factors. Evaluating the effect of changes in assumptions is beyond the scope of this assignment.

Because actual plan experience will differ from the assumptions, decisions about benefit changes, investment policy, funding amounts, benefit security and/or benefit related issues should be made only after careful consideration of alternative future financial conditions and scenarios, and not solely on the basis of a valuation report or reports.

Data

We used and relied on financial data submitted by the Fund without further audit. We have also used and relied on participant data supplied by the Fund; this data would customarily not be verified by the Fund's actuary. We have reviewed the participant data for internal consistency and have no reason to doubt its substantial accuracy. The Fund is solely responsible for the validity and completeness of this information.

Contributions

All costs, liabilities and other factors for the Fund were determined in accordance with generally accepted actuarial principles and procedures, in accordance with the provisions of current federal and state statutes and regulations issued thereunder. The economic assumptions are set in Minnesota Statutes, and the remaining assumptions are adopted by the Legislative Commission on Pensions and Retirement. We believe that these assumptions are reasonable. This report fully and fairly discloses the actuarial position of the Fund on an ongoing basis.

Certification

Professional Qualifications

We are available to answer any questions on the material contained in the report, or to provide explanations or further details as may be appropriate. The undersigned credentialed actuaries meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report. We are not aware of any direct or material indirect financial interest or relationship, including investments or other services that could create a conflict of interest, that would impair the objectivity of our work.

The information contained in this document (including any attachments) is not intended by Mercer to be used, and it cannot be used, for the purpose of avoiding penalties under the Internal Revenue Code that may be imposed on the taxpayer.

James F. Verlautz
James F. Verlautz, FSA, EA, MAAA
Principal

12/9/08
Date

Bonita J. Wurst
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Supplemental Information

The remainder of the report includes information supporting the results presented in the previous sections.

- **Plan assets** presents information about the plan's assets as reported by the Teachers Retirement Association of Minnesota and the Minnesota State Board of Investments. The assets represent the portion of total fund liabilities that has been funded.
- **Membership data** presents and describes the membership data used in the valuation.
- **Development of costs** shows the liabilities for plan benefits and the derivation of the contribution amount.
- **Actuarial basis** describes the plan provisions, as well as the methods and assumptions used to value the plan. The valuation is based on the premise that the plan is ongoing.
- **Plan accounting under GASB 25 (as amended by GASB 50)** shows the disclosures required by GASB Statement No. 25 as amended by GASB Statement No. 50.
- **Glossary** defines the terms used in this report.

Plan Assets

Statement of Plan Net Assets for Year Ended June 30, 2008 *(Dollars in Thousands)*

		Market Value
Assets in Trust		
▪ Cash, equivalents, short term securities	$	45,283
▪ Fixed income		1,757,336
▪ Equity		5,713,490
▪ Equity in MPRIF		10,635,347
▪ Other		1,860,254
Total assets in trust	**$**	**20,011,710**
Assets Receivable		17,588
Total Assets	**$**	**20,029,298**
Amounts Payable		(1,868,885)
Due to MPRIF for Mortality Losses		(53,447)
Net Assets	**$**	**18,106,966**
Net assets held in trust for pension benefits		
▪ MPRIF reserves	$	10,635,347
▪ Member reserves		1,883,372
▪ Other non-MPRIF reserves		5,588,247
Total assets available for benefits	**$**	**18,106,966**

Plan Assets

Reconciliation of Plan Assets

The following exhibit shows the revenue, expenses and resulting assets of the Fund as reported by the Minnesota State Board of Investment, for the Plan's fiscal year July 1, 2007 to June 30, 2008.

Change in Assets *(dollars in thousands)*	**Non-MPRIF Assets**	**MPRIF Reserve**	**Market Value**
1. Fund balance at market value at July 1, 2007	**$ 8,299,347**	**$ 11,639,535**	**$ 19,938,882**
2. Contributions			
a. Member	209,592	0	209,592
b. Employer	209,717	0	209,717
c. Direct aid (state/city/county)	21,845	0	21,845
d. Earnings Limitation Savings Account (ELSA)	3,554	0	3,554
e. Total contributions	$ 444,708	$ 0	$ 444,708
3. Investment income			
a. Investment income	$ (367,977)	$ (525,700)	$ (893,677)
b. Investment expenses	(13,423)	(18,945)	(32,368)
c. Net subtotal	$ (381,400)	$ (544,645)	$ (926,045)
4. Other	3,976	-	3,976
5. Total income *(2.d. + 3.c. + 4.)*	**$ 67,284**	**$ (544,645)**	**$ (477,361)**
6. Benefits Paid			
a. Annuity benefits	$ (13,156)	$ (1,317,681)	$ (1,330,837)
b. Refunds	(11,770)	0	(11,770)
c. Total benefits paid	$ (24,926)	$ (1,317,681)	$ (1,342,607)
7. Expenses			
a. Interest paid to Post Fund	$ (1,687)	$ 0	$ (1,687)
b. Administrative	(10,261)	0	(10,261)
c. Total	$ (11,948)	$ 0	$ (11,948)
8. Total disbursements *(6.c. + 7.c.)*	**$ (36,874)**	**$ (1,317,681)**	**$ (1,354,555)**
9. Other changes in reserves			
a. Annuities awarded	$ (804,691)	$ 804,691	$ 0
b. Mortality gain (loss)	(53,447)	53,447	0
c. Change in assumptions	0	0	0
d. Total other changes	**$ (858,138)**	**$ 858,138**	**$ 0**
10. Fund balance at market value at July 1, 2008 *(1. + 5. + 8. + 9.d.)*	**$ 7,471,619**	**$ 10,635,347**	**$ 18,106,966**

Plan Assets

Actuarial Asset Value *(Dollars in Thousands)*

				June 30, 2008
1. Market value of assets available for benefits				**$ 18,106,966**
2. Determination of average non-MPRIF balance				
a. Non-MPRIF assets available at July 1, 2007				8,299,347
b. Non-MPRIF assets available at June 30, 2008 (before MPRIF mortality adjustment)				7,525,066
c. Net investment income for fiscal year ending June 30, 2008				(377,424)
d. Average balance *[a. + b. – c.] / 2*				8,100,919
3. Expected non-MPRIF return *[8.5% * 2.d.]*				688,578
4. Actual non-MPRIF return				(377,424)
5. Current year unrecognized asset return				(1,066,002)
6. Unrecognized asset recognized asset returns				
	Original Amount	**% Not Recognized**		
a. Year ended June 30, 2008	$ (1,066,002)	80%	$	(852,802)
b. Year ended June 30, 2007	725,920	60%		435,552
c. Year ended June 30, 2006	653,165	40%		261,266
d. Year ended June 30, 2005	179,823	20%		35,965
e. Total unrecognized return			$	(120,019)
7. Actuarial value at June 30, 2008 *(1. – 6.e.)*			**$**	**18,226,985**

Membership Data

Distribution of Active Participants*

	Years of Service as of June 30, 2008									
Age	**0 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25 - 29**	**30 - 34**	**35 - 39**	**40 +**	**Total**
0 – 19	3									**3**
Avg. Earnings	194									**194**
20 – 24	2,389									**2,389**
Avg. Earnings	21,109									**21,109**
25 – 29	7,706	1,746	1							**9,450**
Avg. Earnings	30,831	43,965	32,773							**33,254**
30 – 34	3,212	5,352	1,242							**9,806**
Avg. Earnings	29,537	46,163	55,452							**41,894**
35 – 39	2,282	2,760	4,375	900						**10,317**
Avg. Earnings	25,540	46,032	56,445	63,413						**47,431**
40 – 44	1,948	1,678	2,333	2,919	597					**9,475**
Avg. Earnings	22,826	45,561	56,108	63,195	66,602					**50,242**
45 – 49	1,829	1,584	1,514	1,893	2,327	501				**9,648**
Avg. Earnings	22,078	45,487	54,815	62,204	65,751	66,398				**51,766**
50 – 54	1,451	1,193	1,484	1,522	1,543	2,223	988			**10,404**
Avg. Earnings	19,359	43,917	54,466	60,788	65,523	69,891	68,943			**54,954**
55 – 59	1,130	932	1,133	1,418	1,358	1,497	2,452	501		**10,421**
Avg. Earnings	18,694	42,055	53,023	60,187	66,350	68,636	69,841	70,307		**58,062**
60 – 64	639	353	423	523	554	484	299	348	40	**3,663**
Avg. Earnings	12,674	36,942	50,103	58,631	66,513	68,272	75,064	76,125	73,199	**53,167**
65 – 69	277	85	67	60	63	48	36	38	22	**696**
Avg. Earnings	7,275	31,137	48,836	58,542	73,164	75,915	82,066	87,523	77,294	**39,770**
70 – 74	92	15	10	5	2	5	6	5	5	**145**
Avg. Earnings	4,265	21,821	43,857	39,686	48,988	71,358	75,459	109,821	66,821	**21,706**
75+	65	17	8	3	1	1		1	2	**98**
Avg. Earnings	12,504	41,034	60,524	52,544	36,950	36,374		104,530	95,806	**25,731**
Total	**23,023**	**15,712**	**12,590**	**9,243**	**6,445**	**4,759**	**3,781**	**893**	**69**	**76,515**
Avg. Earnings	**25,477**	**45,032**	**55,285**	**61,851**	**66,030**	**67,617**	**70,145**	**73,566**	**74,698**	**47,641**

* *Reflects active participants as of June 30, 2008. Unlike the exhibit on page 14, counts do not include disabled participants. Exhibit reflects a change in service for one member reported on December 1 and not reflected in the rest of this report.*

Membership Data

Distribution of Service Retirements*

	Years Since Retirement as of June 30, 2008							
Age	**>1**	**1 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25+**	**Total**
50 - 54	7	6						**13**
Avg. Benefit	13,498	37,927						**24,773**
55 - 59	942	2,535	109					**3,589**
Avg. Benefit	22,442	21,082	34,170					**21,837**
60 – 64	684	4,448	4,764	141	1		1	**10,039**
Avg. Benefit	22,036	22,298	21,500	38,486	1,913		2,534	**22,125**
65 – 69	251	1,757	5,154	2,814	83	1		**10,060**
Avg. Benefit	20,038	19,450	23,208	25,416	28,888	35,452		**23,138**
70 – 74	28	229	1,649	3,476	2,016	45	1	**7,444**
Avg. Benefit	7,870	16,355	22,685	30,555	33,276	31,190	15,983	**29,028**
75 – 79	3	33	154	1,457	2,651	1,081	29	**5,408**
Avg. Benefit	1,906	13,636	22,767	30,340	34,897	33,844	28,791	**32,932**
80 – 84	1	11	23	152	1,108	1,610	466	**3,371**
Avg. Benefit	1,791	15,750	17,926	30,392	34,406	38,070	29,364	**35,095**
85 – 89		1	4	15	111	840	917	**1,888**
Avg. Benefit		75,709	23,240	8,546	32,600	32,452	30,666	**31,407**
90+					5	65	1,162	**1,232**
Avg. Benefit					3,544	27,348	26,487	**26,439**
Total	**1,916**	**9,020**	**11,857**	**8,055**	**5,975**	**3,642**	**2,576**	**43,041**
Avg. Benefit	**21,693**	**21,227**	**22,534**	**28,815**	**34,101**	**35,243**	**28,508**	**26,437**

* *Excludes duplicate records when recipient is receiving more than one benefit type.*

Membership Data

Distribution of Survivors*

	Years Since Death as of June 30, 2008							
Age	**>1**	**1 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25+**	**Total**
<45	4	36	41	33		1	3	**118**
Avg. Benefit	6,222	14,576	14,731	24,420		3,015	24,851	**17,263**
45 – 49	3	19	10	10	4	2	1	**49**
Avg. Benefit	8,308	15,245	12,633	13,687	26,252	34,604	22,658	**15,809**
50 - 54	6	32	17	8	4	8	3	**78**
Avg. Benefit	12,180	14,302	16,315	25,462	14,011	16,571	17,363	**16,058**
55 - 59	9	61	60	23	7	5		**165**
Avg. Benefit	24,676	19,810	17,118	17,038	20,424	7,725		**18,370**
60 – 64	13	69	128	66	19	3	3	**301**
Avg. Benefit	19,723	17,699	17,531	21,591	18,368	15,358	5,933	**18,470**
65 – 69	2	27	127	185	85	16	10	**452**
Avg. Benefit	15,637	21,084	19,863	23,428	24,982	23,545	18,061	**22,430**
70 – 74	1	13	67	170	222	79	16	**568**
Avg. Benefit	8,518	13,177	19,794	26,771	30,657	34,132	22,957	**28,040**
75 – 79	1	2	15	73	204	261	77	**633**
Avg. Benefit	13,866	2,590	13,371	27,269	30,419	32,504	27,114	**29,995**
80 – 84			2	22	86	245	157	**512**
Avg. Benefit			6,830	22,344	27,573	32,418	30,204	**30,392**
85 – 89		1		4	12	75	195	**287**
Avg. Benefit		23,327		24,159	35,325	31,681	32,164	**32,028**
90+		2		1	2	5	126	**136**
Avg. Benefit		13,513		24,527	11,874	28,773	31,015	**30,346**
Total	**39**	**262**	**467**	**595**	**645**	**700**	**591**	**3,299**
Avg. Benefit	**16,796**	**17,167**	**17,862**	**24,289**	**28,848**	**31,869**	**29,991**	**26,246**

* *Excludes duplicate records when recipient is receiving more than one benefit type.*

Membership Data

Distribution of Disability Retirements*

	Years Disabled as of June 30, 2008							
Age	**>1**	**1 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25+**	**Total**
<45	3	14	7	3				**27**
Avg. Benefit	7,073	7,188	6,788	4,363				**6,758**
45 – 49	2	14	8	3	1			**28**
Avg. Benefit	11,257	12,310	7,980	5,092	11,477			**10,195**
50 - 54	8	45	22	8	3	1		**87**
Avg. Benefit	17,947	16,282	11,824	15,202	9,861	4,796		**14,855**
55 - 59	9	93	80	35	7			**224**
Avg. Benefit	20,492	22,750	16,968	19,201	18,313			**19,901**
60 – 64	5	69	96	65	22	4	3	**264**
Avg. Benefit	16,925	18,976	24,354	28,325	25,726	21,005	39,951	**24,026**
65 – 69		11						**11**
Avg. Benefit		16,614						**16,614**
Total	**27**	**246**	**213**	**114**	**33**	**5**	**3**	**641**
Avg. Benefit	**16,902**	**18,754**	**19,093**	**23,631**	**22,280**	**17,763**	**39,951**	**19,881**

* *Excludes duplicate records when recipient is receiving more than one benefit type.*

Membership Data

Reconciliation of Members*

			Recipients			
	Actives	Inactives	Service Retirements	Disability Retirements	Survivors	Total
Members on 7/1/2007	**76,938**	**32,446**	**43,347**	**638**	**3,205**	**156,574**
New hires	4,541					**4,541**
Return from inactive	2,251	(2,251)				**0**
Return from zero balance	515					**515**
Transfer to inactive	(4,341)	4,341				**0**
Transfer from non-status		157				**157**
Restored writeoff		451				**451**
Repay refunds		48				**48**
Refunded	(382)	(777)				**(1,159)**
Retirements	(1,950)	(352)	2,379	(39)		**38**
Disability began				68		**0**
Payment to beneficiary began					315	**0**
Deaths	(43)	(42)	(895)	(17)	(104)	**(1,101)**
Adjustments	(356)	262	(1)	(6)		**(101)**
Term completes					(89)	**(89)**
Net changes	**235**	**1,837**	**1,483**	**6**	**122**	**3,683**
Members on 6/30/2008	**77,173**	**34,283**	**44,830**	**644**	**3,327**	**160,257**

* *Provided by the Teachers Retirement Association and checked for reasonableness. Note that this reconciliation does not tie to the counts in the 2007 valuation report because of the integration of TRA and MTRFA data during the prior fiscal year. Active member count includes certain disabled members. Recipient counts include all pensions in force, including double counting of multiple payee types.*

Development of Costs

Actuarial Valuation Balance Sheet *(Dollars in Thousands)*

The actuarial balance sheet is based on the fundamental equation that at any given time the present value of benefits to be paid in the future must be equal to the assets on hand plus the present value of future contributions to be received. The total rate of contribution is determined as that amount which will make the total present and potential assets balance with the total present value of future benefits. The members' rate of contribution is fixed at the current schedule of compensation. The employer's rate of contribution is the balance required to cover the total rate of contribution.

The contributions made in excess of amounts required for current benefit payments are accumulated as a reserve to help meet benefit payments in later years. This reserve system enables the establishment of a level rate of contribution each year.

	June 30, 2008
A. Actuarial Value of Assets	$ 18,226,985
B. Expected future assets	
1. Present value of expected future statutory supplemental contributions*	$ 1,664,260
2. Present value of expected future normal cost contributions	2,763,051
3. Total expected future assets *(1. + 2.)*	$ 4,427,311
C. Total current and expected future assets	$ 22,654,296

	Non-Vested Benefits	Vested Benefits	Total
D. Current benefit obligations			
1. Benefit recipients			
a. Service retirements	$ 0	$ 12,853,171	$ 12,853,171
b. Disability	0	179,222	179,222
c. Survivors	0	723,307	723,307
2. Deferred retirements with augmentation	0	446,384	446,384
3. Former members without vested rights	0	39,999	39,999
4. Active Members	75,115	7,001,113	7,076,228
5. Total Current Benefit Obligations	$ 75,115	$ 21,243,196	$ 21,318,311
E. Expected Future Benefit Obligations			$ 3,675,581
F. Total Current and Expected Future Benefit Obligations			$ 24,993,892
G. Unfunded Current Benefit Obligations *(D.5. − A.)*			$ 3,091,326
H. Unfunded Current and Future Benefit Obligations *(F. − C.)*			$ 2,339,596

* *Under LCPR guidelines, this amount does not include supplemental payments which could occur after the expiration of the remaining 29 year amortization period.*

Development of Costs

Determination of Unfunded Actuarial Accrued Liability and Supplemental Contribution Rate *(Dollars in Thousands)*

	Actuarial Present Value of Projected Benefits	Actuarial Present Value of Future Normal Costs	Actuarial Accrued Liability
A. Determination of Actuarial Accrued Liability (AAL)			
1. Active Members			
a. Retirement annuities	$ 9,728,239	$ 2,125,848	$ 7,602,391
b. Disability benefits	176,942	66,962	109,980
c. Survivor's benefits	69,364	27,281	42,083
d. Deferred retirements	664,274	350,235	314,039
e. Refunds	112,990	192,725	(79,735)
f. Total	$ 10,751,809	$ 2,763,051	$ 7,988,758
2. Deferred retirements with future augmentation	446,384	0	446,384
3. Former members without vested rights	39,999	0	39,999
4. Annuitants in MPRIF	13,567,065	0	13,567,065
5. Recipients not in MPRIF	188,635	0	188,635
6. Total	$ 24,993,892	$ 2,763,051	$ 22,230,841
B. Determination of Unfunded Actuarial Accrued Liability (UAAL)			
1. Actuarial accrued liability			$ 22,230,841
2. Actual value of assets			18,226,985
3. Unfunded actuarial accrued liability			$ 4,003,856
C. Determination of Supplemental Contribution Rate			
1. Present value of future payrolls through the amortization date of July 1, 2037			$ 66,250,842
2. Supplemental contribution rate *(B.3. / C.1.)*			6.04%

Development of Costs

Changes in Unfunded Actuarial Accrued Liability (UAAL) *(Dollars in Thousands)*

		Year Ending June 30, 2008
A. Unfunded actuarial accrued liability at beginning of year	$	2,675,925
B. Changes due to interest requirements and current rate of funding		
1. Normal cost and actual administrative expenses	$	367,604
2. Contributions		(444,708)
3. Interest on A., B.1. and B.2.		224,177
4. Total *(B.1. + B.2.+ B.3.)*	$	147,073
C. Expected unfunded actuarial accrued liability at end of year *(A. + B.4.)*	$	2,822,998
D. Increase (decrease) due to actuarial losses (gains) because of experience deviations from expected		
1. Salary increases	$	51,254
2. Investment return		1,228,867
3. MPRIF Mortality		53,447
4. Mortality of other benefit recipients		(3,726)
5. Other items		(45,753)
6. Total	$	1,284,089
E. Unfunded actuarial accrued liability at end of year before plan amendments and changes in actuarial assumptions *(C. + D.6.)*	$	4,107,087
F. Change in unfunded actuarial accrued liability due to changes in plan provisions	$	0
G. Change in unfunded actuarial accrued liability due to changes in actuarial assumptions	$	(103,231)
H. Unfunded actuarial accrued liability at end of year *(E. + F. + G.)*	$	4,003,856

Development of Costs

Determination of Contribution Sufficiency/(Deficiency) – Total *(Dollars in Thousands)*

	Percent of Payroll		Dollar Amount
A. Statutory contributions – Chapter 354			
1. Employee contributions	5.50%	$	211,704
2. Employer contributions*	5.69%		218,752
3. Supplemental contributions**			
a. 1993 Legislation	0.13%		5,000
b. 1996 Legislation	0.10%		3,716
c. 1997 Legislation	0.33%		12,954
4. Total	11.75%	$	452,126
B. Required contributions – Chapter 356			
2. Normal cost			
a. Retirement benefits	6.93%	$	266,696
b. Disability benefits	0.20%		7,513
c. Survivors	0.08%		3,044
d. Deferred retirement benefits	1.03%		39,500
e. Refunds	0.53%		20,528
f. Total	8.77%	$	337,281
3. Supplemental contribution amortization by July 1, 2037 of Unfunded Actuarial Accrued Liability			
a. Due to unfunded MPRIF liability	4.43%	$	170,386
b. Due to unfunded non-MPRIF liability	1.61%		61,924
c. Total supplemental contribution amortization	6.04%	$	232,310
4. Allowance for expenses	0.27%	$	10,385
5. Total annual contribution for fiscal year ending June 30, 2009	15.08%	$	579,976
C. Contribution Sufficiency/(Deficiency) *(A.4. – B.4.)*	(3.33%)	$	(127,850)

Note: Projected annual payroll for fiscal year beginning on the valuation date: $3,846,190.

* *Employer contribution rate is blended to reflect rates of 13.14% of pay for Basic members, 5.50% of pay for non-MTRFA Coordinated members, and 9.14% of pay for MTRFA Coordinated members.*

** *Includes contributions from School District #1, the City of Minneapolis and matching state contributions.*

Development of Costs

Determination of Contribution Sufficiency/(Deficiency) – Basic *(Dollars in Thousands)*

	Percent of Payroll	Dollar Amount
A. Statutory contributions – Chapter 354		
1. Employee contributions	9.00%	$ 422
2. Employer contributions*	13.14%	616
3. Supplemental contributions**		
a. 1993 Legislation	0.13%	6
b. 1996 Legislation	0.10%	5
c. 1997 Legislation	0.33%	15
4. Total	22.70%	$ 1,064
B. Required contributions – Chapter 356		
1. Normal cost		
a. Retirement benefits	11.41%	$ 535
b. Disability benefits	0.49%	23
c. Survivors	0.38%	18
d. Deferred retirement benefits	2.22%	104
e. Refunds	0.40%	19
f. Total	14.90%	$ 699

Note: Projected annual payroll for fiscal year beginning on the valuation date: $4,692.

* *All Basic active members are former MTRFA members, so employer contribution rate of 13.14% of pay applies.*

** *Includes contributions from School District #1, the City of Minneapolis and matching state contributions.*

Development of Costs

Determination of Contribution Sufficiency/(Deficiency) – Coordinated *(Dollars in Thousands)*

	Percent of Payroll		Dollar Amount
A. Statutory contributions – Chapter 354			
1. Employee contributions	5.50%	$	211,282
2. Employer contributions*	5.68%		218,136
3. Supplemental contributions**			
a. 1993 Legislation	0.13%		4,994
b. 1996 Legislation	0.10%		3,711
c. 1997 Legislation	0.33%		12,939
4. Total	11.74%	$	451,062
B. Required contributions – Chapter 356			
1. Normal cost			
a. Retirement benefits	6.93%	$	266,161
b. Disability benefits	0.19%		7,490
c. Survivors	0.08%		3,026
d. Deferred retirement benefits	1.03%		39,396
e. Refunds	0.53%		20,509
f. Total	8.76%	$	336,582

Note: Projected annual payroll for fiscal year beginning on the valuation date: $3,841,498. This includes $3,653,218 for non-MTRFA members and $188,280 for MTRFA members.

* *Employer contribution rate is blended to reflect rates of 5.50% of pay for non-MTRFA Coordinated members, and 9.14% of pay for MTRFA Coordinated members.*

** *Includes contributions from School District #1, the City of Minneapolis and matching state contributions.*

Actuarial Basis

Actuarial Cost Method

Liabilities and contributions in this report are computed using the Individual Entry Age Normal Cost Method. This method is prescribed by Minnesota Statutes.

The objective under this method is to fund each participants' benefits under the Plan as payments which are level as a percentage of salary, starting at original participation date (or employment date), and continuing until the assumed retirement termination, disability or death.

At the time the funding method is introduced, there will be a liability which represents the contributions which would have been accumulated if this method of funding had always been used. The difference between this liability and the assets (if any) which are held in the fund is the unfunded liability which is typically funded over a chosen period in accordance with the amortization schedule.

A detailed description of the calculation follows:

The normal costs for each active participant under the assumed retirement age is determined by applying to earnings the level percentage of salary which, if contributed each year from date of entry into the Plan until the assumed retirement (termination, disability or death) date, is sufficient to provide the full value of the benefits expected to be payable.

- The present value of present value of future normal costs is the total of the discounted values of all active participants' normal cost, assuming these to be paid in each case from the valuation date until retirement (termination, disability or death) date.
- The present value of projected benefits is calculated as the value of all benefit payments expected to be paid to the Plan's current participants, including active and retired members, beneficiaries, and terminated members with vested rights.
- The accrued liability is the excess of the present value of projected benefits over the present value of future normal cost.
- The unfunded liability is the excess of the accrued liability over the assets of the fund, and represents that part of the accrued liability which has not been funded by accumulated past contributions.

Amortization Method

The unfunded liability is amortized as a level percentage of payroll each year to the statutory amortization date of July 1, 2037 assuming payroll increases of 4.5% per year (5.0% last year). If the unfunded Actuarial Accrued Liability is negative, the surplus amount is amortized over 30 years as a level percentage of payroll.

Actuarial Basis

Asset Valuation Method

MPRIF Reserve: Market Value

Non-MPRIF Assets: The assets are valued based on a five-year moving average of expected and market values (five-year average actuarial value) determined as follows:

- At the end of each plan year, an average asset value is calculated as the average of the market asset value at the beginning and end of the fiscal year net of investment income for the fiscal year;
- The investment gain or (loss) is taken as the excess of actual investment income over the expected investment income based on the average asset value as calculated above;
- The investment gain or (loss) so determined is recognized over five years at 20% per year;
- The asset value is the sum of the expected asset value plus the scheduled recognition of investment gains or (losses) during the current and the preceding four plan years.

Valuation and Accounting Procedures

Financial and census data: We used financial data submitted by the Fund and the Fund's auditor and participant data submitted by the Fund without further audit. This information would customarily not be verified by a plan's actuary. We have reviewed the information for internal consistency and we have no reason to doubt its substantial accuracy.

Supplemental Contributions

The City of Minneapolis, the Minneapolis School District, and the State of Minnesota are scheduled to make the following supplemental contributions to the Fund:

1993 Legislation:	Supplemental contributions of $5,000,000 annually are assumed to be made until the amortization date of June 30, 2037. Amount is fixed in statute.
1996 Legislation:	Supplemental contributions of $3,716 ,000 annually are assumed to be made until the amortization date of June 30, 2037. Amount is variable as described in Minnesota Statutes, Section 423A. Assumed amount is based on actual amount received in most recent fiscal year, and information provided by the Teachers Retirement Association.
1997 Legislation:	Supplemental contributions of $12,954,000 annually are assumed to be made until the amortization date of June 30, 2037. Amount is fixed in statute.

The 1997 Legislation amount was reduced from $13,314,000 to $12,954,000 since the prior valuation.

Actuarial Basis

Summary of Actuarial Assumptions

The following assumptions were used in valuing the liabilities and benefits under the plan.

Investment return		6.0% compounded annually post-retirement 8.5% compounded annually pre-retirement
Benefit increases after retirement		Payment of benefit increases after retirement accounted for by 6.00% post-retirement assumption.
Salary increases		Reported salary for prior fiscal year, with new hires annualized, increased according to the ultimate table shown in the rate table to current fiscal year and annually for each future year. During a ten-year select period, 0.30 x (10-T), where T is completed years of service is added to the ultimate rate. See table of sample rates.
Mortality	*Pre-retirement*	1983 Group Annuity Mortality for males set back 12 years 1983 Group Annuity Mortality for females set back 10 years
	Post-retirement	1983 Group Annuity Mortality for males set back 6 years 1983 Group Annuity Mortality for females set back 3 years
	Post-Disability	1965 Railroad Retirement Board (RRB) rates through age 54. For ages 55 to 64, graded rates between 1965 RRB and the Healthy Post-retirement mortality table. For ages 65 and later, the Healthy Post-retirement mortality table.
Disability		Age-related rates based on experience; see table of sample rates
Withdrawal		Select and ultimate rates based on actual plan experience. Ultimate rates after the third year are shown in the rate table. Select rates are as follows:

	First Year	Second Year	Third Year
Male	45%	12%	6%
Female	40%	10%	8%

Expenses	Prior year administrative expenses expressed as percentage of prior year payroll.
Retirement age	Graded rates beginning at age 55 as shown in rate table. Members who have attained the highest assumed retirement age will retire in one year.
Percentage married	85% of male members and 65% of female members are assumed to be married. Members are assumed to have no children.
Age difference	Females three years younger than males.
Allowance for Combined Service Annuity	Liabilities for active members are increased by 1.40% and liabilities for former members are increased by 4.00% to account for the effect of some Participants having eligibility for a Combined Service Annuity.

Actuarial Basis

Summary of Actuarial Assumptions *(continued)*

Refund of contributions	All employees withdrawing after becoming eligible for a deferred benefit are assumed to take the larger of their contributions accumulated with interest or the value of their deferred benefit.
Interest on member contributions	Members and former members who are eligible for the money purchase annuity are assumed to receive interest credits equal to the Pre-Retirement interest rate. All other members and former members receive the interest crediting rate as specified in statutes.
Form of payment	Married members are assumed to elect subsidized joint and survivor form of annuity as follows: 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
Unknown data for members	We used membership data as supplied by the plan sponsor as of July 1, 2008. Customarily, this information would not be verified by a plan's actuary. We have reviewed the information for internal consistency and we have no reason to doubt its substantial accuracy. In cases where submitted data was missing or incomplete, the following assumptions were applied: Data for active members missing a date of birth: Date of birth: July 1, 1964 Data for terminated members: Date of birth: July 1, 1964 Average salary: $28,731 Allowable service: 7.50 years Age at termination: Age 40, or current age if younger than 40
Changes in actuarial assumptions since the previous valuation	The following changes in assumptions were recognized as of July 1, 2008: ▪ Ultimate salary increase rates were lowered by 0.50% at all ages. ▪ Payroll growth assumption was reduced from 5.0% to 4.5%. ▪ Coordinated retirement rates were changed at the following ages:

	Eligible for Rule of 90		Not Eligible for Rule of 90	
Age	Old Rate	New Rate	Old Rate	New Rate
55 & Under	N/A	N/A	9%	7%
56	50%	60%	9%	7%
57	50%	55%	9%	7%
58	N/A	N/A	9%	8%
59	N/A	N/A	12%	10%
61	N/A	N/A	20%	18%
65	N/A	N/A	50%	45%

Actuarial Basis

Summary of Actuarial Assumptions *(continued)*

	Rate (%)						
	Pre-Retirement Mortality		Ultimate Withdrawal		Disability		
Age	Male	Female	Male	Female	Male	Female	Salary Increases
20	0.03	0.01	3.70	4.50	0.00	0.00	5.5%
25	0.03	0.01	3.20	4.50	0.00	0.00	5.5%
30	0.04	0.02	2.70	4.50	0.00	0.00	5.5%
35	0.04	0.03	2.50	3.90	0.01	0.01	5.5%
40	0.05	0.03	2.35	2.75	0.03	0.03	5.2%
45	0.07	0.05	2.10	2.10	0.05	0.05	4.7%
50	0.10	0.07	1.85	1.85	0.11	0.10	4.5%
55	0.17	0.10	0.00	0.00	0.22	0.16	4.5%
60	0.31	0.16	0.00	0.00	0.33	0.25	4.8%
65	0.52	0.25	0.00	0.00	0.00	0.00	5.2%
70	0.77	0.42	0.00	0.00	0.00	0.00	5.2%
71	0.84	0.47	0.00	0.00	0.00	0.00	5.2%

Actuarial Basis

Summary of Retirement Rates

	Rate %				
Age	All Non-MTRFA and MTRFA Coordinated Members Eligible for Rule of 90	All Non-MTRFA and MTRFA Coordinated Members Not Eligible for Rule of 90	Age	MTRFA Basic Members Eligible for 30 and Out Provision	MTRFA Basic Members Not Eligible for 30 and Out Provision
55 & Under	50	7	55 & under	40	5
56	60	7	56	40	5
57	55	7	57	40	5
58	50	8	58	40	5
59	50	10	59	40	5
60	50	12	60	25	25
61	50	18	61	25	25
62	50	20	62	25	25
63	50	20	63	25	25
64	50	20	61	25	25
65	50	45	65	40	40
66	35	35	66	40	40
67	35	35	67	40	40
68	35	35	68	40	40
69	35	35	69	40	40
70	35	35	70-74	60	60
71 & Over	100	100	75-79	60	100
			80 & Over	100	100

Actuarial Basis

Summary of Plan Provisions *(continued)*

Basic (Former MTRFA Members)

This summary of provisions reflects our interpretation of applicable Statutes for purposes of preparing this valuation. This interpretation is not intended to provide a basis for administering the Plan.

Plan year	July 1 through June 30
Eligibility	Teachers first hired prior to July 1, 1978 employed by the Board of Education of Special School District No. 1, other than a charter school, and not covered by the Social Security Act. Certain part-time licensed employees of Special School District No. 1 are also covered.
Contributions	Member: 9.00% of Salary Employer: 13.14% of Salary
Teaching service	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.
Salary	Total compensation. Excludes lump sum payments for unused vacation leave or unused sick leave at separation.
Average salary	Average of the five highest successive years of Salary.
Retirement	
Normal retirement	
Age/Service requirements	Age 60, or any age with 30 years of Teaching Service
Amount	2.50% of Average Salary for each year of Teaching Service.
Early retirement	
Age/Service requirements	Age 55 with less than 30 years of Teaching Service.
Amount	The greater of (a) or (b): (a.) 2.25% of Average Salary for each year of Teaching Service with reduction of 0.25% for each month before the Member would first be eligible for a normal retirement benefit. (b.) 2.50% of Average Salary for each year of Teaching Service assuming augmentation to the age of first eligibility for a normal retirement benefit at 3.00% per year and actuarial reduction for each month before the member would be first eligible for a normal retirement benefit. An alternative benefit is available to members who are at least age 50 and have seven 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.

Actuarial Basis

Summary of Plan Provisions *(continued)*

Basic (Former MTRFA Members)

Retirement	
Early retirement *(continued)*	
Form of payment	Life annuity. Actuarially equivalent options are: (a.) 10 or 15 year Certain and Life (b.) 50%, 75% or 100% Joint and Survivor with free bounce back feature (option is canceled if member is predeceased by beneficiary).
Benefit increases	The inflation-based benefit increase provided by the Minnesota Post Retirement Investment Fund (Post Fund) to benefit recipients is equal to 100 percent of CPI-W, but not to exceed 2.5 percent. An additional benefit increase may be provided to any individuals who have lost purchasing power compared to the value of the benefit they initially received when their benefit first commenced. This additional benefit increase can only be paid if the Post Fund composite funding ratio is at least 90 percent, if the rate return earned on Post Fund assets exceeds 8.5 percent for the year, and if the inflation rate certified for the year is less than 2.5 percent. Should the Post Fund ever exceed a funding ratio of 100 percent, an additional inflation component could be paid should CPI-W inflation exceed 2.5 percent. An overall cap of 5.0 percent annually on benefit recipient adjustments is effective June 30, 2010. A member who has been receiving a benefit for at least 12 full months as of June 30 will receive a full increase. Members receiving benefits for at least one full month but less than 12 full months will receive a pro rata increase.
Disability	
Age/Service requirement	Total and permanent disability with three years of Teaching Service
Amount	An annuity actuarially equivalent to the 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 city contributions only or $150 per month. A member with 20 years of Teaching Service also receives an additional $7.50 per month. Payments stop earlier if disability ceases or death occurs. Benefits may be reduced on resumption of partial employment.
Form of payment	Same as for retirement.
Benefit increases	Same as for retirement.

Actuarial Basis

Summary of Plan Provisions *(continued)*

Basic (Former MTRFA Members)

Death	Choice of Benefit A, Benefit B or Benefit C
Benefit A	
Age/service requirement	Death before retirement.
Amount	The accumulation of member and city contributions plus 6.00% interest. Paid as a life annuity, 15-year Certain and Life, or lump sum. If an annuity is chosen the beneficiary also receives additional benefits.
Benefit B	
Age/service requirement	An active member with seven years of Teaching Service. A former member age 60 with seven years of Teaching Service who dies before retirement or disability benefits begin.
Amount	The actuarial equivalent of any benefits the member could have received resignation occurred on the date of death.
Benefit C	
Age/service requirement	As an active member who dies and leaves surviving children.
Amount	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).
Benefit increases	Same as retirement.
Withdrawal	
Refund of contribution	
Age/service requirement	Termination of Teaching Service.
Amount	Member's contributions with 6.00% interest. A deferred annuity may be elected in lieu of a refund.
Deferred annuity	
Age/service requirement	Seven years of Teaching Service
Amount	The benefit computed under law in effect at termination and increased by following percentage compounded annually: (a.) 3.00% until January 1 of the year following attainment of age 55; and (b.) 5.00% thereafter until the annuity begins: In addition, the interest earned on the member and city contributions between termination and age 60 can be applied to provide an additional annuity.

Actuarial Basis

Summary of Plan Provisions *(continued)*

Coordinated

This summary of provisions reflects our interpretation of applicable Statutes for purposes of preparing this valuation. This interpretation is not intended to provide a basis for administering the Plan.

Plan year	July 1 through June 30
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. Effective July 1, 2002, charter school teachers employed by St. Paul or Duluth public schools are covered by this fund. No MNSCU teacher will become a new Member unless that person elects coverage as defined by Minnesota Statutes under Chapter 354B.
Contributions	Member: 5.50% of Salary Employer: 5.50% of Salary plus Supplemental of 3.64% of Salary (MTRFA members only).
Teaching service	A day of credit is earned if five hours are taught that day. A year is earned if 170 days of service are credited. Credit may also be provided for certain leaves of absence if employee contributions are paid into the fund.
Salary	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 salary	Average of the five highest successive years of Salary. Average Salary is based on all Allowable Service if less than five years.
Retirement	
<u>*Normal retirement*</u>	
Age/Service requirements	First hired before July 1, 1989: (a.) Age 65 or three years of Allowable Service. (b.) Age 62 and 30 years of Allowable Service. Proportionate Retirement Annuity is available at age 65 and one year of Allowable Service. First hired after June 30, 1989: The greater of (a.) or (b.): (a.) Age 65. (b.) The age when first eligible for full Social Security retirement benefits (but not to exceed age 66) and three years of Allowable Service. Proportionate Retirement Annuity is available at normal retirement age and one year of Allowable Service.

Actuarial Basis

Summary of Plan Provisions *(continued)*

Coordinated

Retirement	
<u>*Early retirement*</u>	
Age/Service requirements	Age 55 and three years of Allowable Service. First hired before July 1, 1989: (a.) Age 55 and three years of Allowable Service. (b.) Any age and 30 years of Allowable Service. (c.) Rule of 90: Age plus Allowable Service totals 90. First hired after June 30, 1989: (a.) Age 55 with three years of Allowable Service.
<u>*Amount*</u>	First hired before July 1, 1989: The greater of (a.), (b.) or (c.): (a.) 1.20% of Average Salary for each of the first ten years of Allowable Service. 1.70% of Average Salary for each year of Allowable Service in excess of 10 prior to July 1, 2006, and 1.90% of Average Salary for years of Allowable Service after July 1, 2006 . No actuarial reduction if age plus years of service totals 90. Otherwise reduction of 0.25% for each month the member is under age 65 (or 62 if 30 years of Allowable Service) at time of retirement. (b.) 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 beginning July 1, 2006, assuming augmentation to age 65 at 3.00% per year and actuarial reduction for each month the member is under age 65. (c.) For eligible former members: the monthly benefit that is actuarially equivalent to 2.2 times the former members' accumulated deductions plus interest thereon. 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 beginning July 1, 2006, assuming augmentation to age 65 at 3.00% per year and actuarial reduction for each month the member is under the full Social Security benefit retirement age (not to exceed age 66).
<u>*Form of payment*</u>	Life annuity. Actuarially equivalent options are: (a.) 50%, 75% or 100% Joint and Survivor with free bounce back feature (option is canceled if member is predeceased by beneficiary). (b.) 15 year Certain and Life (c.) Guaranteed Refund.

Actuarial Basis

Summary of Plan Provisions *(continued)*

Coordinated

Retirement	
<u>*Benefit Increases*</u>	The inflation-based benefit increase provided by the Minnesota Post Retirement Investment Fund (Post Fund) to benefit recipients is equal to 100 percent of CPI-W, but not to exceed 2.5 percent. An additional benefit increase may be provided to any individuals who have lost purchasing power compared to the value of the benefit they initially received when their benefit first commenced. This additional benefit increase can only be paid if the Post Fund composite funding ratio is at least 90 percent, if the rate return earned on Post Fund assets exceeds 8.5 percent for the year, and if the inflation rate certified for the year is less than 2.5 percent. Should the Post Fund ever exceed a funding ratio of 100 percent, an additional inflation component could be paid should CPI-W inflation exceed 2.5 percent. An overall cap of 5.0 percent annually on benefit recipient adjustments is effective June 30, 2010. A member who has been receiving a benefit for at least 12 full months as of June 30 will receive a full increase. Members receiving benefits for at least one full month but less than 12 full months will receive a pro rata increase.
Disability	
Age/service requirement	Total and permanent disability before Normal Retirement Age with three year of Allowable Service.
Amount	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. 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 on resumption of partial employment.
Form of payment	Same as for retirement.
Benefit increases	Adjusted by TRA to provide same increase as MPRIF.
<u>*Retirement after disability*</u>	
Age/service requirement	Normal Retirement Age or the five year anniversary of the effective date of the disability benefit, whichever is later.
Amount	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.
Benefit increases	Same as for retirement.

Actuarial Basis

Summary of Plan Provisions *(continued)*

Coordinated

Death	
Surviving spouse optional annuity	
Age/service requirement	Member or former member with three years of Allowable Service who dies before retirement or disability benefits commence.
Amount	Survivor's payment of the 100% Joint and Survivor benefit or an actuarial equivalent term certain annuity. If commencement is prior to age 65 (age 62 if 30 years of service), the benefit is reduced for early retirement with half the applicable reduction factor used from age 55 to actual commencement age. If no surviving spouse, then an actuarial equivalent dependent child benefit is paid to age 20 or for five years if longer.
Benefit increases	Same as normal retirement.
Withdrawal	
Refund of contributions	
Age/service requirement	Thirty days following termination of teaching service.
Amount	Member's contributions with 6.00% interest compounded annually if termination occurred on or after May 16, 1989. A deferred annuity may be elected in lieu of a refund.
Deferred annuity	
Age/service requirement	Vested at date of termination. Current requirement is three years of Allowable Service.
Amount	For members first hired prior to July 1, 2006, the benefit is computed under law in effect at termination and increased by the following percentage compounded annually: (a.) 3.00% therefore until January 1 of the year following attainment of age 55; and (b.) 5.00% thereafter until the annuity begins: Amount is payable as a normal or early retirement. A member who terminated service before July 1, 1997 whose benefit does not commence until after June 30, 1997 shall receive an actuarially equivalent increase to reflect the change from 5.00% to 6.00% in the post-retirement interest assumption; or For eligible former members; the monthly benefit that is actuarially equivalent to 2.2 times the formers members' accumulated deductions plus interest thereon. For members first hired July 1, 2006 and after, the benefit computed under law in effect at termination is increased by 2.50% compounded annually until the annuity begins.

Actuarial Basis

Summary of Plan Provisions *(continued)*

Changes in Plan Provisions	Revised Minnesota Post Retirement Investment Fund Benefit Increase The inflation-based benefit increase provided by the Minnesota Post Retirement Investment Fund (Post Fund) to benefit recipients is equal to 100 percent of CPI-W, but not to exceed 2.5 percent. An additional benefit increase may be provided to any individuals who have lost purchasing power compared to the value of the benefit they initially received when their benefit first commenced. This additional benefit increase can only be paid if the Post Fund composite funding ratio is at least 90 percent, if the rate return earned on Post Fund assets exceeds 8.5 percent for the year, and if the inflation rate certified for the year is less than 2.5 percent. Should the Post Fund ever exceed a funding ratio of 100 percent, an additional inflation component could be paid should CPI-W inflation exceed 2.5 percent. An overall cap of 5.0 percent annually on benefit recipient adjustments is effective June 30, 2010. A member who has been receiving a benefit for at least 12 full months as of June 30 will receive a full increase. Members receiving benefits for at least one full month but less than 12 full months will receive a pro rata increase. Potential Dissolution of Minnesota Post Fund If the Post Fund composite funding ratio is less than 80 percent in any one year, or less than 85 percent in two consecutive years, the Post Fund must be dissolved as of the following fiscal year end, and assets will be transferred back to the applicable plan and be merged with the active member assets for that plan. If the Post Fund is dissolved, not withstanding any other law, the benefit recipients will receive an annual 2.5 percent increase in lieu of any other benefit increase.

Plan Accounting Under GASB 25 (as amended by GASB 50)

Provided below is information required under GASB Statement No. 25 as amended by GASB Statement No. 50 – Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans as amended by GASB Statement No. 50.

Schedule of Funding Progress[1] *(Dollars in Thousands))*

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded (Overfunded) AAL (UAAL) (b) – (a)	Funded Ratio (a)/(b)	Actual Covered Payroll (Previous FY) (c)	UAAL as a Percentage of Covered Payroll (b) – (a) / (c)
07/01/1991	$ 5,614,924	$ 7,213,720	$ 1,598,796	77.84%	$ 1,943,375	82.27%
07/01/1992	6,324,733	7,662,522	1,337,789	82.54%	1,989,624	67.24%
07/01/1993	7,045,037	8,266,059	1,220,122	85.24%	2,065,881	59.06%
07/01/1994	7,611,936	9,115,266	1,503,330	83.51%	2,150,300	69.91%
07/01/1995	8,348,124	9,717,623	1,369,499	85.91%	2,204,693	62.12%
07/01/1996	9,541,221	10,366,168	824,947	92.04%	2,268,390	36.37%
07/01/1997	11,103,759	10,963,637	(140,122)	101.28%	2,359,011	(5.94%)
07/01/1998	12,727,546	12,046,312	(681,234)	105.66%	2,422,957	(28.12%)
07/01/1999	14,011,247	13,259,569	(751,678)	105.67%	2,625,254	(28.63%)
07/01/2000	15,573,151	14,802,441	(770,710)	105.21%	2,704,575	(28.50%)
07/01/2001	16,834,024	15,903,984	(930,040)	105.85%	2,812,000	(33.07%)
07/01/2002	17,378,994	16,503,099	(875,895)	105.31%	2,873,771	(30.48%)
07/01/2003	17,384,179	16,856,379	(527,800)	103.13%	2,952,887	(17.87%)
07/01/2004	17,519,909	17,518,784	(1,126)	100.01%	3,032,483	(0.04%)
07/01/2005	17,752,917	18,021,410	268,493	98.51%	3,121,571	8.60%
07/01/2006	19,035,612	20,679,111	1,643,499	92.05%	3,430,645	47.91%
07/01/2007	18,794,389	21,470,314	2,675,925	87.54%	3,532,159	75.76%
07/01/2008	18,226,985	22,230,841	4,003,856	81.99%	3,645,230	109.84%

[1] *Information prior to 2008 provided by The Segal Company.*

Plan Accounting Under GASB 25 (as amended by GASB 50)

Schedule of Contributions from the Employer and Other Contributing Entities[1]

(Dollars in Thousands)

The GASB Statement No. 25 (as amended by GASB 50) required and actual contributions are as follows:

Plan Year Ended June 30	Actuarially Required Contribution Rate (a)	Actual Covered Payroll (b)	Actual Member Contributions (c)	Annual Required Contributions [(a)x(b)] – (c)	Actual Employer Contributions[2]	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[3]	9.55%	2,422,957	124,096	107,296	151,323	141.03%
1999[2]	8.39%	2,625,254	132,040	88,219	130,526	147.96%
2000[2]	8.36%	2,704,575	138,696	87,406	134,419	153.79%
2001[2,4]	7.92%	2,812,000	145,075	77,635	139,799	180.07%
2002[2]	7.85%	2,873,771	152,331	73,260	142,222	194.13%
2003[2,5]	7.57%	2,952,887	155,577	67,957	149,481	219.96%
2004[2]	8.37%	3,032,483	159,140	94,679	151,029	159.52%
2005[2]	8.46%	3,121,571	160,982	103,103	157,693	152.95%
2006[6]	9.05%	3,430,645	177,085	133,389	200,286	150.15%
2007[7]	12.16%	3,532,159	199,869	229,642	209,219	91.11%
2008[8]	13.44%	3,645,230	209,592	280,327	231,562	82.60%
2009[9]	15.08%					

[1] *Information prior to 2008 provided by The Segal Company.*
[2] *Includes contributions from other sources (if applicable)*
[3] *Actuarially Required Contributions calculated according to parameters of GASB 25 using a 30-year amortization of the negative unfunded actuarial accrued liability.*
[4] *Actuarially Required Contributions Rate prior to change in Actuarial Assumptions and Asset Valuation Method is 7.31%.*
[5] *Actuarially Required Contribution Rate prior to change in Actuarial Assumptions is 8.11%.*
[6] *Actuarially Required Contribution Rate shown is the contribution rate stated in the TRA July 1, 2005 actuarial valuation.*
[7] *Actuarially Required Contributions calculated according to parameters of GASB 25) 30-year amortization period), and post-merger of the Minneapolis Teachers' Retirement Fund Association.*
[8] *Actuarially Required Contribution Rate prior to change in Asset Valuation Method is 11.58%.*
[9] *Actuarially Required Contribution Rate prior to change in Actuarial Assumptions is 15.36%.*

Plan Accounting Under GASB 25 (as amended by GASB 50)

Supplementary Information Required by GASB

Valuation date	July 1, 2008
Actuarial cost method	Entry Age Normal
Amortization method	Level percentage of payroll, assuming payroll increases of 4.50% per annum
Remaining amortization period	29 years remaining as of July 1, 2008
Asset valuation method	MPRIF Reserve: Market Value Non-MPRIF Assets: The assets are valued based on a five-year moving average of expected and market values (five-year average actuarial value) determined as follows: ▪ At the end of each plan year, an average asset value is calculated as the average of the market asset value at the beginning and end of the fiscal year net of investment income for the fiscal year; ▪ The investment gain or (loss) is taken as the excess of actual investment income over the expected investment income based on the average asset value as calculated above; ▪ The investment gain or (loss) so determined is recognized over five years at 20% per year; ▪ The asset value is the sum of the expected asset value plus the scheduled recognition of investment gains or (losses) during the current and the preceding four plan years.
Actuarial assumptions:	
Investment rate of return:	
Pre-retirement	8.50% per annum
Post-retirement	6.00% per annum
Projected salary increases	Select and ultimate rates by age, with ultimate rates of 4.50% - 5.50%
Plan membership:	
Active members	
▪ *Vested*	61,230
▪ *Non-vested*	15,285
▪ *Sub total*	76,515
Pensioners and beneficiaries	46,981
Terminated vested members entitled to, but not yet receiving benefits	12,168
Other terminated non-vested members	22,115
Total	157,779

Plan Accounting Under GASB 25 (as amended by GASB 50)

Actuarial Asset Value. The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method. The goal of an asset valuation method is to produce a relatively stable asset value thereby reducing year-to-year volatility in contribution requirements.

Actuarial Cost Method. Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Annual Pension Cost. A measure of the periodic cost of an employer's participation in a defined benefit pension plan.

Annual Required Contributions (ARC). The employer's periodic required contributions to a defined benefit pension plan, calculated in accordance with the parameters of GASB 25 (as amended by GASB 50) or GASB 27.

ASA. Associate of the Society of Actuaries.

Current Benefit Obligations. The present value of benefits earned to the valuation date, based on current service and including future salary increases to retirement.

FSA. Fellow of the Society of Actuaries.

Normal Cost. The annual cost assigned to the current year, under the actuarial cost method in use.

Present Value. Sometimes called "actuarial present value," the current worth (on the valuation date) of an amount or series of amounts payable or receivable in the future. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Statement No. 25 of the Governmental Accounting Standards Board (GASB 25). The accounting standard governing the financial reporting for defined benefit pension plans and note disclosures for defined contribution plans.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27). The accounting standard governing a state or local governmental employer's accounting for pensions.

Statement No. 50 of the Governmental Accounting Standards Board (GASB 50). The accounting standard amending both GASB 25 and GASB 27 to require a schedule of funding progress under the Entry Age Normal method for plans that use the aggregate funding method to determine the Annual Required Contribution.

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