December 2009

Teachers Retirement Association Fund

Actuarial Valuation Report as of July 1, 2009

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, 2009.
- Review experience under the Plan for the year ended June 30, 2009.
- 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.

	Actuarial Valuation as of	
Contributions	**July 1, 2009**	**July 1, 2008**
Statutory Contributions – Chapter 354 (% of Payroll)	11.69%	11.75%
Required Contributions – Chapter 356 (% of Payroll)	16.81%	15.08%
Sufficiency / (Deficiency)	(5.12%)	(3.33%)

The contribution deficiency increased from (3.33%) of payroll to (5.12%) of payroll. On a market value of assets basis, the plan moved from a deficiency of (3.51%) of payroll to a deficiency of (11.07%) of payroll. The primary reasons for the increased deficiency are the less than expected return on assets and the impact of insufficient contributions.

Without a change in contribution rates, benefit provisions, or favorable actuarial experience, the funded status will continue to deteriorate.

The "Plan Assets" section provides detail on the plan assets used for the valuation including a development of the actuarial value of assets. The market value of assets earned (18.8%) for the plan year ending June 30, 2009. **Only 20% of that asset loss is recognized in the actuarial value of assets as of June 30, 2009. The remainder will be recognized over the next four years.** The actuarial value of assets earned 3.4% (after recognition of the asset method change) for the plan year ending June 30, 2009 as compared to the assumed rate of 8.5%.

Participant reconciliation and statistics are detailed in the "Membership Data" section. The "Actuarial Basis" section includes a summary of plan provisions and actuarial methods and assumptions used for the calculations in this report. The "Plan Accounting" section details the required accounting information for the Plan under GASB Statement No. 25.

There were no changes in actuarial assumptions since July 1, 2008. Changes in plan provisions and valuation methods are reflected in this report and summarized in the Actuarial Basis and Effects of Changes section.

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, 2009	**July 1, 2008**
Contributions *(% of Payroll)*		
Statutory – Chapter 354	11.69%	11.75%
Required – Chapter 356	16.81%	15.08%
Sufficiency / (Deficiency)	(5.12%)	(3.33%)
Funding Ratios *(dollars in thousands)*		
Accrued Benefit Funding Ratio		
– Current assets (AVA)	$ 17,882,408	$ 18,226,985
– Current benefit obligations	22,193,284	21,318,311
– Funding ratio	80.58%	85.50%
Accrued Liability Funding Ratio		
– Current assets (AVA)	$ 17,882,408	$ 18,226,985
– Market value of assets (MVA)	13,813,826	18,106,966
– Actuarial accrued liability	23,114,802	22,230,841
– Funding ratio (AVA)	77.36%	81.99%
– Funding ratio (MVA)	59.76%	81.45%
Projected Benefit Funding Ratio		
– Current and expected future assets	$ 22,605,285	$ 22,654,296
– Current and expected future benefit obligations	26,107,302	24,993,892
– Funding ratio	86.59%	90.64%
Participant Data		
Active members		
– Number	77,162	76,515
– Projected annual earnings for fiscal year 2010 *(000s)*	4,049,217	3,846,190
– Average projected annual earnings for fiscal year 2010	52,450	50,267
– Average age	42.9	43.4
– Average service	11.8	11.9
Service retirements	46,009	43,041
Survivors	3,575	3,299
Disability retirements	624	641
Deferred retirements	12,490	12,168
Terminated other non-vested	23,073	22,115
Total	**162,933**	**157,779**

Effects of Changes

The following changes in plan provisions and methods were recognized as of July 1, 2009:

Dissolution of Minnesota Post Retirement Investment Fund (MPRIF)

The 2008 Legislature defined parameters for the dissolution of the MPRIF. Since the MPRIF composite funding ratio was less than 80 percent as of June 30, 2008, the MPRIF was dissolved, and assets were transferred back to TRA and merged with the active member assets. The transfer of assets and liabilities occurred on June 30, 2009.

In conjunction with the dissolution, benefit recipients will receive future annual 2.5% cost of living adjustments.

The waiting period and proration schedule for the COLA paid in the first year of retirement was also revised.

Other than the asset method change described below, the MPRIF dissolution and COLA changes did not affect the valuation results.

Accrual Date Change

Beginning January 1, 2010, members applying for retirement may begin receiving benefits on any day of the month, rather than being restricted to either the first or 16th of the month.

As described in our February 2009 letter, the actuarial impact of this change is insignificant.

MnSCU Faculty

Beginning July 1, 2009, newly tenured faculty of the Minnesota State College and University (MnSCU) can choose TRA membership and purchase prior service credit at full actuarial value.

The liability and service purchase assets of new MnSCU members will be recognized in future valuations as service is purchased.

Asset Method

For the purpose of determining the actuarial value of assets, the MPRIF asset loss for the fiscal year ending June 30, 2009 is recognized incrementally over five years at 20% per year, similar to the smoothing of active fund assets. Prior to June 30, 2009, MPRIF asset gains and losses were not smoothed.

The change in the actuarial asset method for MPRIF assets reduced the required contribution by 3.17% of pay.

Certification

Mercer has prepared this report exclusively for Trustees of the Teachers Retirement Association of Minnesota Fund and the Legislative Commission on Pensions and Retirement (LCPR) for the following purposes:

- Present the results of a valuation of the Teachers Retirement Association Fund as of July 1, 2009 as required by Minnesota Statutes, Section 356.215 and the Standards of Actuarial Work established by the State of Minnesota Legislative Commission on Pensions and Retirement
- Review plan experience for the year ended June 30, 2009
- Provide the Annual Required Contribution for the period beginning July 1, 2009
- Provide reporting and disclosure information for financial statements for governmental agencies pursuant to GASB Statements Number 25 (as amended by GASB Number 50) and 27.

This valuation report may not be relied upon for any other purpose or by any party other than the Trustees, the LCPR, or the Plan's auditors solely for the purpose of completing an audit related to the matters herein. Mercer is not responsible for the consequences of any unauthorized use.

A valuation report is a snapshot of a plan's estimated financial condition at a particular point in time; it does not predict a plan's future financial condition or its 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 the plan pays, the number of people paid benefits, plan expenses and the amount earned on any assets invested to pay the benefits. These amounts and other variables 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 in the Actuarial Basis section, are used to select a single scenario from a 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 one valuation to the next because of changes in mandated requirements, plan experience, changes in expectations about the future and other factors. Because of the limited scope of our assignment to produce an actuarial valuation, and the State's requirements for actuarial reports, the report does not include an analysis of the potential range of future possibilities and scenarios.

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 and plan provisions

To prepare this report, Mercer has used and relied on financial data submitted by the Teachers Retirement Association of Minnesota as of June 30, 2009, as well as participant data supplied by the Teachers Retirement Association of Minnesota as of June 30, 2009. We have reviewed the financial and participant data for internal consistency and general reasonableness, but we have not verified or audited any of the data or information provided. We have also used and relied on the Statutes and summary of plan provisions supplied by the Teachers Retirement Association of Minnesota. A summary of the plan provisions valued is presented in our report. The Trustees are solely responsible for the accuracy, validity and comprehensiveness of this information. If the data or plan provisions supplied are not accurate and complete, the valuation results may differ significantly from the results that would be obtained with accurate and complete information; this may require a later revision of this report.

Certification

Actuarial Calculations, Methods and Assumptions

To the best of our knowledge and belief, this report is complete and accurate and all costs, liabilities and other factors under the plan were determined in accordance with generally accepted actuarial principles and procedures, in accordance with the requirements of Minnesota Statutes Section 356.215 and the requirements of the Standards of Actuarial Work established by the LCPR. The economic assumptions, including discount rates, are set in Minnesota Statutes, and the remaining assumptions are adopted by the Trustees and the LCPR. This valuation is based on assumptions, plan provisions, methods and other parameters as summarized in this report. If this information is inaccurate or incomplete or does not reflect current statutes, regulations or Board directives, the reader of this report should not rely on the valuation results and should notify Mercer promptly. In our opinion, this report fully and fairly discloses the actuarial position of the plan on an ongoing basis.

Professional qualifications

We are available to answer any questions on the material in this report or to provide explanations or further details as appropriate. The undersigned credentialed actuaries meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report. In addition, Mr. Verlautz meets the requirements of "approved actuary" under Minnesota Statutes, Section 356.215, Subdivision 1, Paragraph (c). 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

12/14/09
Date

Bonita J. Wurst
Bonita J. Wurst, ASA, EA, MAAA
Principal

12/14/2009
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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, 2009 *(Dollars in Thousands)*

		Market Value
Assets		
Cash and short-term investments		
▪ Cash	$	9,889
▪ Building account cash		0
▪ Short term investments		352,652
Total cash and short term investments	$	362,541
Receivables		
▪ Employee contributions	$	12,704
▪ Investment income		319
▪ Bond interest		16
Total receivables	$	13,039
Investments (at fair value)		
▪ Fixed income pool	$	3,132,739
▪ Minneapolis pool		152
▪ Alternative investments pool		1,948,640
▪ Indexed equity pool		2,362,182
▪ Domestic equity pool		3,776,044
▪ Global equity pool		2,247,201
Total investments	$	13,466,958
Securities lending collateral	$	2,277,084
Building		
▪ Land	$	171
▪ Building and equipment		11,266
– Reserve for building depreciation		(2,243)
▪ Deferred bond charge		146
– Reserve for deferred bond charge amortization		(40)
Total building	$	9,300
Fixed assets net of accumulated depreciation	$	335
Total Assets		**16,129,257**

Plan Assets

Statement of Plan Net Assets for Year Ended June 30, 2009 *(Dollars in Thousands)*

		Market Value
Liabilities		
Current		
▪ Accounts payable	$	8,166
▪ Accrued compensated absences		60
▪ Accrued expenses - building		1
▪ Bonds payable		236
▪ Bonds interest payable		45
▪ Securities lending collateral		2,277,084
Total current liabilities	$	2,285,592
Long term		
▪ Accrued compensated absences	$	639
▪ Accrued OPEB liability		24
▪ Bonds payable		9,176
Total long term liabilities	$	9,839
Total Liabilities	**$**	**2,295,431**
Net assets held in trust for pension benefits	**$**	**13,833,826**
▪ Earnings Limitation Savings Account (ELSA) accounts payable		(20,000)
Net assets held in trust, after adjustment for ELSA accounts	**$**	**13,813,826**

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, 2008 to June 30, 2009.

Change in Assets *(dollars in thousands)*	**Non-MPRIF Assets**	**MPRIF Reserve**	**Market Value**
1. Fund balance at market value at July 1, 2008	**$ 7,471,619**	**$ 10,635,347**	**$ 18,106,966**
2. Contributions			
a. Member	212,043	0	212,043
b. Employer	220,270	0	220,270
c. Direct aid (state/city/county)	20,448	0	20,448
d. Earnings Limitation Savings Account (ELSA)	2,301	0	2,301
e. Total contributions	$ 455,062	$ 0	$ 455,062
3. Investment income			
a. Investment income/(loss)	$ (1,457,053)	$ (1,841,451)	$ (3,298,504)
b. Investment expenses	(8,325)	(11,539)	(19,864)
c. Total investment income/(loss)	$ (1,465,378)	$ (1,852,990)	$ (3,318,368)
4. Other	4,225	0	4,225
5. Total income *(2.d. + 3.c. + 4.)*	**$ (1,006,091)**	**$ (1,852,990)**	**$ (2,859,081)**
6. Benefits Paid			
a. Annuity benefits	$ (14,107)	$ (1,367,259)	$ (1,381,366)
b. Refunds	(14,430)	(2,301)	(16,731)
c. Total benefits paid	$ (28,537)	$ (1,369,560)	$ (1,398,097)
7. Expenses			
a. Interest paid to MPRIF	$ (5,354)	$ 0	$ (5,354)
b. Administrative	(10,608)	0	(10,608)
c. Total expenses	$ (15,962)	$ 0	$ (15,962)
8. Total disbursements *(6.c. + 7.c.)*	**$ (44,499)**	**$ (1,369,560)**	**$ (1,414,059)**
9. Other changes in reserves			
a. Annuities awarded	$ (309,527)	$ 309,527	$ 0
b. Reserves transferred	7,668,877	(7,668,877)	0
c. Mortality gain (loss) not transferred	53,447	(53,447)	0
d. Total other changes	**$ 7,412,797**	**$ (7,412,797)**	**$ 0**
10. Fund balance at market value at July 1, 2009	**13,833,826**	**0**	**13,833,826**
11. ELSA accounts payable	(20,000)	0	(20,000)
12. Fund balance at market value after adjustment for ELSA accounts	**$ 13,813,826**	**$ 0**	**$ 13,813,826**

Plan Assets

Actuarial Asset Value *(Dollars in Thousands)*

				June 30, 2009
1. Market value of assets available for benefits				**$ 13,813,826**
2. Determination of average balance				
a. Assets available at July 1, 2008				18,106,966
b. Assets available at June 30, 2009				13,833,826
c. Net investment income for fiscal year ending June 30, 2009				(3,314,143)
d. Average balance *[a. + b. – c.] / 2*				17,627,467
3. Expected return *[8.5% * 2.d.]*				1,498,335
4. Actual return				(3,314,143)
5. Current year unrecognized asset return				(4,812,478)
6. Unrecognized asset returns*				
		Original Amount	**% Not Recognized**	
a. Year ended June 30, 2009	$	(4,812,478)	80%	$ (3,849,982)
b. Year ended June 30, 2008		(1,066,002)	60%	(639,601)
c. Year ended June 30, 2007		725,920	40%	290,368
d. Year ended June 30, 2006		653,165	20%	130,633
e. Total return not yet recognized				$ (4,068,582)
7. Actuarial value of assets at June 30, 2009 *(1. – 6.e.)*				**$ 17,882,408**

* *Prior to the year ending June 30, 2009, unrecognized asset returns do not include MPRIF gains or losses.*

Membership Data

Reconciliation of Members*

	Active Members	Former Members**	Benefit Recipients*** Service Retirements	Disability Retirements	Survivors	Total
Members on 7/1/2008	**77,173**	**34,283**	**44,830**	**644**	**3,327**	**160,257**
New hires	4,764	-	-	-	-	**4,764**
Return from inactive	1,603	(1,603)	-	-	-	**0**
Return from zero balance	870	-	-	-	-	**870**
Transfer to inactive	(4,216)	4,216	-	-	-	**0**
Transfer from non-status	-	47	-	-	-	**47**
Restored writeoff	-	125	-	-	-	**125**
Repay refunds	-	52	-	-	-	**52**
Refunded	(356)	(1,203)	-	-	-	**(1,559)**
Retirements	(1,774)	(387)	2,165	(45)	-	**(41)**
Disability began	-	-	-	55	-	**55**
Disability ended	-	-	-	(3)	-	**(3)**
Payment to beneficiary began	-	-	-	-	330	**330**
Deaths	(60)	(36)	(891)	(25)	(106)	**(1,118)**
Term completes	-	-	-	-	(70)	**(70)**
Adjustments	(218)	69	4	(2)	(5)	**(152)**
Net changes	**613**	**1,280**	**1,278**	**(20)**	**149**	**3,300**
Members on 6/30/2009	**77,786**	**35,563**	**46,108**	**624**	**3,476**	**163,557**

* *Provided by the Teachers Retirement Association and checked for reasonableness. Active member count includes certain disabled members. Recipient counts include all pensions in force, including double counting of multiple benefit types. Service Retirements include Supplemental and Variable optional joint annuitants.*

** *Former members include 47 Basic members and 35,516 Coordinated members.*

*** *Benefit recipients include 5,581 Basic members and 44,627 Coordinated members.*

Former Member Statistics	Vested	Non-vested	Total
Number	12,490	23,073	35,563
Average Age	48.2 years	42.5 years	44.5 years
Average Service	7.4 years	0.9 years	3.2 years
Average annual benefits, with augmentation to Normal Retirement Date and 4% CSA load	$ 11,406	N/A	N/A
Average refund value, with 4% CSA load	$ 24,802	$ 1,807	$ 9,884

Membership Data

Distribution of Active Participants*

	Years of Service as of June 30, 2009										
Age	<3	3 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 +	Total
<25	2,360	42									**2,402**
Avg. Earnings	20,064	40,624									**20,423**
25 – 29	4,645	3,072	1,734	1							**9,452**
Avg. Earnings	25,479	39,772	45,838	24,561							**33,859**
30 – 34	1,907	1,502	5,151	1,485							**10,045**
Avg. Earnings	24,236	38,995	47,906	57,785							**43,540**
35 – 39	1,425	816	2,450	4,512	953						**10,156**
Avg. Earnings	20,385	38,403	47,013	58,825	65,450						**49,563**
40 – 44	1,473	607	1,644	2,448	3,275	585					**10,032**
Avg. Earnings	17,093	35,746	45,739	57,876	65,629	68,140					**51,689**
45 – 49	1,293	580	1,456	1,596	1,928	2,422	496				**9,771**
Avg. Earnings	16,394	33,900	46,677	56,989	64,069	68,769	69,265				**53,650**
50 – 54	1,028	464	1,145	1,402	1,478	1,598	2,034	964	1		**10,114**
Avg. Earnings	14,816	31,121	45,716	57,068	63,324	68,028	69,205	70,415	50,593		**56,656**
55 – 59	803	356	907	1,144	1,441	1,367	1,360	2,182	505		**10,065**
Avg. Earnings	12,231	31,171	42,108	54,258	62,323	68,218	71,002	72,083	71,560		**59,039**
60 – 64	486	180	368	483	591	663	559	359	410	68	**4,167**
Avg. Earnings	7,955	23,240	35,446	52,104	60,936	68,368	72,026	75,779	75,362	75,047	**55,452**
65 – 69	249	43	87	74	79	60	47	44	36	30	**749**
Avg. Earnings	5,190	9,723	29,945	50,860	62,676	75,657	77,218	91,313	103,511	83,959	**42,006**
70+	117	20	20	10	9	6	5	8	7	7	**209**
Avg. Earnings	2,806	9,513	17,930	31,985	50,041	53,575	86,874	81,619	102,966	90,396	**21,099**
Total	**15,786**	**7,682**	**14,962**	**13,155**	**9,754**	**6,701**	**4,501**	**3,557**	**959**	**105**	**77,162****
Avg. Earnings	**20,137**	**37,162**	**46,193**	**57,409**	**64,143**	**68,433**	**70,208**	**72,264**	**74,592**	**78,617**	**49,076**

* *Unlike the exhibit on page 15, the counts in this exhibit do not include disabled participants.*
** *Active members include 52 Basic and 77,110 Coordinated members.*

In each cell, the top number is the count of active participants for the age/service combination and the bottom number is the amount of average annual earnings. Earnings shown in this exhibit are actual salaries earned during the fiscal year ending June 30, 2009 as reported by the Teachers Retirement Association of Minnesota.

Membership Data

Distribution of Service Retirements*

	Years Since Retirement as of June 30, 2009							
Age	**<1**	**1 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25+**	**Total**
50 – 54	4	4						**8**
Avg. Benefit	15,454	24,433						**19,943**
55 – 59	787	2,270	76					**3,133**
Avg. Benefit	22,680	21,466	30,661					**21,994**
60 – 64	657	4,746	4,439	457		1		**10,300**
Avg. Benefit	21,432	23,147	21,587	27,785		1,960		**22,569**
65 – 69	302	2,054	4,623	3,888	84	3	2	**10,956**
Avg. Benefit	17,221	19,848	21,742	24,804	27,719	14,006	1,636	**22,389**
70 – 74	21	291	1,585	4,075	2,097	71	5	**8,145**
Avg. Benefit	8,980	15,764	19,837	29,183	30,762	26,064	6,618	**27,198**
75 – 79	4	36	164	1,508	3,062	1,207	37	**6,018**
Avg. Benefit	1,119	11,625	19,799	29,233	35,506	26,943	27,592	**31,574**
80 – 84	2	9	27	149	1,243	1,907	653	**3,990**
Avg. Benefit	126,207	19,074	13,433	29,533	32,635	32,989	31,400	**32,372**
85 – 89		2	4	18	105	894	1,072	**2,095**
Avg. Benefit		1,387	21,178	19,667	30,983	30,486	31,281	**30,779**
90+				1	6	74	1,283	**1,364**
Avg. Benefit				1,193	21,474	27,177	25,734	**25,776**
Total	**1,777**	**9,412**	**10,918**	**10,096**	**6,597**	**4,157**	**3,052**	**46,009**
Avg. Benefit	**21,180**	**21,741**	**21,414**	**27,426**	**33,273**	**30,452**	**28,870**	**25,803**

* *Unlike the exhibit on page 15, the counts in this exhibit do not include Supplemental and Variable optional joint annuitants.*

In each cell, the top number is the count of retired participants for the age/years retired combination and the bottom number is the average annual benefit amount.

Membership Data

Distribution of Survivors*

	Years Since Death as of June 30, 2009							
Age	**<1**	**1 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25+**	**Total**
<45	8	36	39	36	2	1	3	**125**
Avg. Benefit	8,843	13,403	13,482	22,799	28,779	3,091	25,472	**16,295**
45 – 49	3	9	11	10	3	2	2	**40**
Avg. Benefit	7,940	15,699	14,555	29,892	16,721	35,469	19,289	**19,595**
50 – 54	5	40	18	10	8	5	5	**91**
Avg. Benefit	11,046	14,319	15,372	20,094	16,181	11,834	18,603	**15,244**
55 – 59	9	56	53	21	8	6	1	**154**
Avg. Benefit	25,076	17,785	16,935	17,176	18,342	7,188	37,091	**17,577**
60 – 64	9	94	126	63	24	4	2	**322**
Avg. Benefit	16,934	19,544	18,946	20,255	19,450	11,215	6,462	**19,185**
65 – 69	3	24	116	213	82	21	11	**470**
Avg. Benefit	14,721	17,539	16,566	23,848	24,641	15,419	21,703	**21,382**
70 – 74		19	53	176	234	77	21	**580**
Avg. Benefit		13,591	20,362	24,139	30,303	26,694	25,481	**26,323**
75 – 79		4	13	78	238	254	96	**683**
Avg. Benefit		11,637	15,372	24,209	32,367	30,533	29,121	**29,852**
80 – 84			3	21	67	271	219	**581**
Avg. Benefit			9,836	24,300	29,323	29,913	29,120	**29,240**
85 – 89		1		6	17	87	257	**368**
Avg. Benefit		23,910		23,294	34,789	33,727	32,101	**32,443**
90+		2		1	2	7	149	**161**
Avg. Benefit		13,851		25,141	14,663	13,867	29,430	**28,350**
Total	**37**	**285**	**432**	**635**	**685**	**735**	**766**	**3,575**
Avg. Benefit	**15,461**	**16,867**	**17,309**	**23,384**	**29,563**	**29,243**	**29,817**	**25,815**

* *Unlike the exhibit on page 15, the counts in this exhibit include Supplemental and Variable optional joint annuitants.*

In each cell, the top number is the count of survivor participants for the age/years since death combination and the bottom number is the average annual benefit amount.

Membership Data

Distribution of Disability Retirements

	Years Disabled as of June 30, 2009							
Age	**<1**	**1 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25+**	**Total**
<45	1	15	7	4				**27**
Avg. Benefit	4,075	8,045	5,605	5,823				**6,936**
45 – 49	2	18	4	3	1			**28**
Avg. Benefit	17,505	12,690	12,265	5,629	2,565			**11,855**
50 – 54	3	40	19	6	5			**73**
Avg. Benefit	11,242	16,035	11,722	17,005	9,120			**14,321**
55 – 59	8	81	66	36	12	1		**204**
Avg. Benefit	26,544	21,951	16,943	17,946	19,558	4,916		**19,580**
60 – 64	5	74	105	61	22	7	2	**276**
Avg. Benefit	21,576	19,273	24,202	26,942	24,534	19,310	56,765	**23,577**
65 – 69	1	13	2					**16**
Avg. Benefit	25,047	16,570	14,668					**16,862**
Total	**20**	**241**	**203**	**110**	**40**	**8**	**2**	**624**
Avg. Benefit	**20,905**	**18,299**	**19,703**	**22,106**	**20,565**	**17,510**	**56,765**	**19,769**

In each cell, the top number is the count of disabled participants for the age/years disabled combination and the bottom number is the average annual benefit amount.

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, 2009
A. Actuarial Value of Assets	$ 17,882,408
B. Expected future assets	
1. Present value of expected future statutory supplemental contributions*	$ 1,730,377
2. Present value of expected future normal cost contributions	2,992,500
3. Total expected future assets *(1. + 2.)*	$ 4,722,877
C. Total current and expected future assets	$ 22,605,285

	Non-Vested Benefits	Vested Benefits	Total
D. Current benefit obligations			
1. Benefit recipients			
a. Service retirements	$ 0	$ 13,267,164	$ 13,267,164
b. Disability	0	172,678	172,678
c. Survivors	0	764,083	764,083
2. Deferred retirements with augmentation to Normal Retirement Date	0	600,194	600,194
3. Former members without vested rights**	41,676	0	41,676
4. Active members	75,257	7,272,232	7,347,489
5. Total Current Benefit Obligations	$ 116,933	$ 22,076,351	$ 22,193,284
E. Expected Future Benefit Obligations			$ 3,914,018
F. Total Current and Expected Future Benefit Obligations			$ 26,107,302
G. Unfunded Current Benefit Obligations *(D.5. – A.)*			$ 4,310,876
H. Unfunded Current and Future Benefit Obligations *(F. – C.)*			$ 3,502,017

* *Under LCPR guidelines, this amount does not include supplemental payments which could occur after the expiration of the remaining 28 year amortization period.*

** *Former members with less than three years of service that have not collected a refund of member contributions as of the valuation date.*

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	$ 10,170,960	$ 2,315,304	$ 7,855,656
b. Disability benefits	195,467	73,955	121,512
c. Survivor benefits	81,817	32,236	49,581
d. Deferred retirements	683,694	354,796	328,898
e. Refunds	129,568	216,209	(86,641)
f. Total	$ 11,261,506	$ 2,992,500	$ 8,269,006
2. Deferred retirements with future augmentation to Normal Retirement Date	600,194	0	600,194
3. Former members without vested rights	41,676	0	41,676
4. Benefit recipients	14,203,926	0	14,203,926
5. Total	$ 26,107,302	$ 2,992,500	$ 23,114,802

B. Determination of Unfunded Actuarial Accrued Liability (UAAL)*	
1. Actuarial accrued liability	$ 23,114,802
2. Actuarial value of assets	17,882,408
3. Unfunded actuarial accrued liability	$ 5,232,394
C. Determination of Supplemental Contribution Rate*	
1. Present value of future payrolls through the amortization date of July 1, 2037	$ 68,394,344
2. Supplemental contribution rate *(B.3. / C.1.)*	7.65%

* *On a market value of assets basis, the unfunded actuarial accrued liability is $9,300,976 and the supplemental contribution rate is 13.60% of payroll.*

Development of Costs

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

		Year Ending June 30, 2009
A. Unfunded actuarial accrued liability at beginning of year	$	4,003,856
B. Changes due to interest requirements and current rate of funding		
1. Normal cost and actual administrative expenses	$	347,889
2. Contributions		(455,062)
3. Interest on A., B.1. and B.2.		335,773
4. Total *(B.1. + B.2. + B.3.)*	$	228,600
C. Expected unfunded actuarial accrued liability at end of year *(A. + B.4.)*	$	4,232,456
D. Increase (decrease) due to actuarial losses (gains) because of experience deviations from expected		
1. Salary increases	$	(16,554)
2. Investment return before actuarial asset method change		3,078,494
3. Mortality of benefit recipients		7,566
4. Other items		98,169*
5. Total	$	3,167,675
E. Unfunded actuarial accrued liability at end of year before plan amendments and changes in actuarial assumptions *(C. + D.5.)*	$	7,400,131
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	$	0
H. Change in unfunded actuarial accrued liability due to changes in actuarial asset method	$	(2,167,737)
I. Unfunded actuarial accrued liability at end of year *(E. + F. + G. + H.)*	$	5,232,394

* *"Other" losses, equal to 0.4% of actuarial accrued liability, are attributable to new entrants, retirement, withdrawal, disability, and pre-retirement mortality experience.*

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%	$	222,860
2. Employer contributions*	5.69%		230,325
3. Supplemental contributions**			
a. 1993 Legislation	0.12%		5,007
b. 1996 Legislation	0.06%		2,487
c. 1997 Legislation	0.32%		12,954
4. Total	11.69%	$	473,633
B. Required contributions – Chapter 356			
1. Normal cost			
a. Retirement benefits	7.05%	$	285,553
b. Disability benefits	0.20%		8,234
c. Survivors	0.09%		3,557
d. Deferred retirement benefits	0.99%		39,864
e. Refunds	0.55%		22,371
f. Total	8.88%	$	359,579
2. Supplemental contribution amortization by July 1, 2037 of Unfunded Actuarial Accrued Liability	7.65%		310,170
3. Allowance for expenses	0.28%	$	11,338
4. Total annual contribution for fiscal year ending June 30, 2010***	16.81%	$	681,087
C. Contribution Sufficiency/(Deficiency) *(A.4. – B.4.)****	(5.12%)	$	(207,454)

Note: Projected annual payroll for fiscal year beginning on the valuation date: $4,049,217.

* *Employer contribution rate is blended to reflect rates of 13.14% of pay for 52 Basic members, 5.50% of pay for 74,105 Coordinated members not employed by Special School District #1, and 9.14% of pay for 3,005 Coordinated members who are employed by Special School District #1.*

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

*** *On a market value of assets basis, the total required contribution is 22.76% of payroll and the contribution deficiency is (11.07%) of payroll.*

Development of Costs

Statutory and Required Contribution Amounts – Basic *(Dollars in Thousands)*

	Percent of Payroll	Dollar Amount
A. Statutory contributions – Chapter 354		
1. Employee contributions	9.00%	$ 394
2. Employer contributions*	13.14%	575
3. Supplemental contributions**		
a. 1993 Legislation	0.12%	5
b. 1996 Legislation	0.06%	3
c. 1997 Legislation	0.32%	14
4. Total	22.64%	$ 991
B. Required contributions – Chapter 356		
1. Normal cost		
a. Retirement benefits	11.38%	$ 498
b. Disability benefits	0.50%	22
c. Survivors	0.39%	17
d. Deferred retirement benefits	3.15%	138
e. Refunds	0.41%	18
f. Total	15.83%	$ 693

Note: Projected annual payroll for fiscal year beginning on the valuation date: $4,377 for 52 members.

* *All Basic active members are teachers employed by Special School District #1; 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

Statutory and Required Contribution Amounts – Coordinated *(Dollars in Thousands)*

	Percent of Payroll		Dollar Amount
A. Statutory contributions – Chapter 354			
1. Employee contributions	5.50%	$	222,466
2. Employer contributions*	5.68%		229,750
3. Supplemental contributions**			
a. 1993 Legislation	0.12%		5,002
b. 1996 Legislation	0.06%		2,484
c. 1997 Legislation	0.32%		12,940
4. Total	11.68%	$	472,642
B. Required contributions – Chapter 356			
1. Normal cost			
a. Retirement benefits	7.05%	$	285,055
b. Disability benefits	0.20%		8,212
c. Survivors	0.09%		3,540
d. Deferred retirement benefits	0.98%		39,726
e. Refunds	0.55%		22,353
f. Total	8.87%	$	358,886

Note: Projected annual payroll for fiscal year beginning on the valuation date: $4,044,840. This includes $3,844,740 for 74,105 Coordinated members who are not employed by Special School District #1 and $200,100 for 3,005 members who are employed by Special School District #1.

* *Employer contribution rate is blended to reflect rates of 5.50% of pay for Coordinated members not employed by Special School District #1, and 9.14% of pay for Coordinated members who are employed by Special School District #1.*

** *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 member's 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 date of retirement termination, disability or death.

At any given date, a liability is calculated equal to the contributions which would have been accumulated if this method of funding had always been used, the current plan provisions had always been in place, and all assumptions had been precisely accurate. The difference between this liability and the assets (if any) which are held in the fund is the unfunded liability. The unfunded liability is typically funded over a chosen period in accordance with the amortization schedule.

A detailed description of the calculation follows:

The normal cost for each active member 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 members' 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 members, 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 costs.
- 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. If the unfunded Actuarial Accrued Liability is negative, the surplus amount is amortized over 30 years as a level percentage of payroll. If there is an increase in the unfunded accrued liability due to a change in the actuarial assumptions, plan provisions, or actuarial cost method, a new amortization period is determined. This new amortization period is determined by blending the period needed to amortize the prior unfunded actuarial accrued liability over the prior amortization period and the increase in unfunded actuarial accrued liability amortized over 30 years. If there is a decrease in the unfunded accrued liability, no change is made to the amortization period.

Actuarial Basis

Asset Valuation Method

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 market value plus the scheduled recognition of investment gains or (losses) during the current and the preceding four fiscal years.

Changes in Asset Valuation Method

For the purpose of determining the actuarial value of assets, the MPRIF asset loss for the fiscal year ending June 30, 2009 is recognized incrementally over five years at 20% per year, similar to the smoothing of active fund assets. Prior to June 30, 2009, MPRIF asset gains and losses were not smoothed.

Valuation and Accounting Procedures

Financial and census data: We used financial data submitted by the Fund and the Fund's auditor and member 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 $5,007,302 annually are assumed to be made until the amortization date of June 30, 2037. Assumed amount is based on actual amount received in most recent fiscal year, and information provided by the Teachers Retirement Association.
1996 Legislation:	Supplemental contributions of $2,486,726 annually are assumed to be made until the amortization date of June 30, 2037. Amount is variable as described in Minnesota Statutes, Section 422A. 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 1993 Legislation amount was increased from $5,000,000 to $5,007,302 since the prior valuation, and the 1996 Legislation amount was reduced from $3,716,000 to $2,486,726 since the prior valuation.

Actuarial Basis

Funding Objective

The fundamental financing objective of the fund is to establish contribution rates which, when expressed as a percentage of active member payroll, will remain approximately level from generation to generation and meet the required deadline for full funding.

Benefits included or excluded

To the best of our knowledge, all material benefits have been included in the liability.

IRC Section 415(b): The limitations of Internal Revenue Code Section 415(b) have been incorporated into our calculations. Annual benefits may not exceed the limits in IRC Section 415. This limit is indexed annually. For 2009, the limit is $195,000.

IRC Section 401(a)17: The limitations of Internal Revenue Code Section 401(a)(17) have been incorporated into our calculations. Compensation for any 12-month period used to determine accrued benefits may not exceed the limits in IRC Section 401(a)(17) for the calendar year in which the 12-month period begins. This limit is indexed annually. For 2009, the limit is $245,000.

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 2.5% annual benefit increases after retirement are accounted for by using the 6.0% post-retirement assumption, as required by statute.
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.
Future service	Members are assumed to earn future service at a full-time rate.
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, 2009. 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 the small number of 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	There were no changes in actuarial assumptions since the previous valuation.

Actuarial Basis

	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	Coordinated Members Eligible for Rule of 90	Coordinated Members Not Eligible for Rule of 90	Age	Basic Members Eligible for 30 and Out Provision	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

Basic 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 Employee contributions are "picked up" according to the provisions of Internal Revenue Code 414(h).
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 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	Benefit recipients will receive future annual 2.5% cost-of-living adjustments. A benefit recipient who has been receiving a benefit for at least 12 full months as of December 31 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 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 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	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 (members employed by Special School District #1 only). Employee contributions are "picked up" according to the provisions of Internal Revenue Code 414(h).
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>	Benefit recipients will receive future annual 2.5% cost-of-living adjustments. A benefit recipient who has been receiving a benefit for at least 12 full months as of December 31 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	Same as for retirement.
<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	
<u>*Surviving spouse optional annuity*</u>	
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	
<u>*Refund of contributions*</u>	
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.
<u>*Deferred annuity*</u>	
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	The following changes in plan provisions are reflected in this valuation: Dissolution of Minnesota Post Retirement Investment Fund (MPRIF) The 2008 Legislature defined parameters for the dissolution of the MPRIF. Since the MPRIF composite funding ratio was less than 80 percent as of June 30, 2008, the MPRIF was dissolved, and assets were transferred back to TRA and merged with the active member assets. The transfer of assets and liabilities occurred on June 30, 2009. In conjunction with the dissolution, benefit recipients will receive future annual 2.5% cost of living adjustments. The waiting period and proration schedule for the COLA paid in the first year of retirement was also revised. Accrual Date Change Beginning January 1, 2010, members applying for retirement may begin receiving benefits on any day of the month, rather than being restricted to either the first or 16th of the month. MnSCU Faculty Beginning July 1, 2009, newly tenured faculty of the Minnesota State College and University (MnSCU) can choose TRA membership and purchase prior service credit at full actuarial value.

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%
07/01/2009	17,882,408	23,114,802	5,232,394	77.36%	3,761,484	139.10%

[1] *Information prior to 2004 provided by Milliman USA; 2004 to 2008 information 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%	3,761,484	212,043	355,189	240,718	67.72%
2010[10]	16.81%					

[1] *Information prior to 2004 provided by Milliman USA; 2004 to 2008 information 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%.*
[10] *Actuarially Required Contribution Rate prior to change in Actuarial Asset Method is 19.98%.*

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

Supplementary Information Required by GASB

Valuation date	July 1, 2009
Actuarial cost method	Entry Age Normal
Amortization method	Level percentage of payroll, assuming payroll increases of 4.50% per annum
Remaining amortization period	28 years remaining as of July 1, 2009
Asset valuation method	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 market 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*	61,376
▪ *Non-vested*	15,786
▪ *Sub total*	77,162
Pensioners and beneficiaries	50,208
Terminated vested members entitled to, but not yet receiving benefits	12,490
Other terminated non-vested members	23,073
Total	162,933

Glossary

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.

EA. Enrolled Actuary.

FSA. Fellow of the Society of Actuaries.

MAAA. Member of the American Academy 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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