December 2010

Teachers Retirement Association Fund

Actuarial Valuation Report as of July 1, 2010

MERCER

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Contents

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December 2010

Minnesota Teachers Retirement Association
Teachers Retirement Association Fund
St. Paul MN

Dear Trustees of the Minnesota Teachers Retirement Association:

Submitted in this report are the July 1, 2010 actuarial valuation results for the Teachers Retirement Association Fund. The purposes of this report are to:

- Present Mercer's actuarial estimates of the Plan's liabilities and expenses as required by Minnesota Statutes, Section 356.215 and the Standards for Actuarial Work established by the State of Minnesota Legislative Commission on Pensions and Retirement (LCPR) for the Minnesota Teachers Retirement Association (TRA) to incorporate, as TRA deems appropriate, in its financial statements; and

- provide the actuarial required contribution rate for the period beginning July 1, 2010.

To the best of our knowledge and belief, the valuation was performed in accordance with the requirements of Minnesota Statutes, Section 356.215, and the requirements of the Standards for Actuarial Work established by the LCPR, including one modification regarding decrement timing. The LCPR approved this modification prior to the preparation of this report in order to ensure consistency and comparability. For more information about the decrement timing methodology, please refer to the *Actuarial Basis* section .

We are available to answer any questions on the material in this report or to provide explanations or further details as appropriate. Moreover, this report contains a Glossary of certain terms referenced in the report, which you may wish to consult before reviewing the report. 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.

Respectfully submitted,

James F. Verlautz

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Highlights

The Teachers Retirement Association Fund experienced many changes during the past year. Plan changes passed during the 2010 legislative session include future increases in member and employer contribution rates as well as a suspension of the annual benefit increases paid to retirees and beneficiaries for two years, followed by annual post-retirement benefit increases of 2.0% (instead of 2.5%) thereafter. Also, a number of assumption changes were adopted by the Legislative Commission on Pensions and Retirement as an outcome of the 2004-2008 experience study. A summary of all changes, as well as their impact, an be found in the *Effects of Change* section.

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

	Actuarial Valuation as of	
Contributions (Actuarial Value of Assets)	**July 1, 2010**	**July 1, 2009**
Statutory Contributions – Chapter 354 (% of Payroll)	11.71%	11.69%
Actuarially Required Contributions – Chapter 356 (% of Payroll)	15.71%	16.81%
Sufficiency / (Deficiency)	(4.00%)	(5.12%)

The contribution deficiency decreased from 5.12% of payroll to 4.00% of payroll. The primary reasons for the reduction in contribution deficiency are the changes in plan provisions. However, a significant contribution deficiency remains. A contribution deficiency means that over the long run, without further changes or favorable actuarial experience, the contributions scheduled to be made to the fund will not provide enough money to pay all the benefit promises.

The deficiency does not reflect the member and employer contribution increases that will be phased in over four years beginning on July 1, 2011. After the contribution increases are fully phased in, the statutory contributions will be 4% of payroll higher than they are today.

The effect on this year's valuation results of having received contributions in the preceding year that were less than actuarially required was approximately a $194 million increase in unfunded liability and 0.29% of payroll increase in this year's required contributions.

The *Plan Assets* section provides detail on the plan assets used for the valuation including a development of the actuarial value of assets (AVA). The market value of assets (MVA) earned an estimated 15.7% for the plan year ending June 30, 2010. The AVA earned 2.1% for the plan year ending June 30, 2010 as compared to the assumed rate of 8.5% mandated by Minnesota Statutes. Due to the asset smoothing method used, the AVA used to determine the contributions in this valuation exceeds the MVA by 16%. Absent future investment gains to offset the investment losses being smoothed, future required contributions will increase as past investment losses become recognized.

If asset smoothing methods were not used for this valuation, the required contribution rate, based on the market value of assets, would have been 19.30% of payroll instead of 15.71% of payroll, as shown below.

	Actuarial Valuation as of	
Contributions (Market Value of Assets)	**July 1, 2010**	**July 1, 2009**
Statutory Contributions – Chapter 354 (% of Payroll)	11.71%	11.69%
Actuarially Required Contributions – Chapter 356 (% of Payroll)	19.30%	22.76%
Sufficiency / (Deficiency)	(7.59%)	(11.07%)

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, 2010	**July 1, 2009**
Contributions *(% of Payroll)*		
Statutory – Chapter 354	11.71%	11.69%
Required – Chapter 356	15.71%	16.81%
Sufficiency / (Deficiency)	(4.00%)	(5.12%)
Funding Ratios *(dollars in thousands)*		
Accrued Benefit Funding Ratio		
– Current assets (AVA)	$ 17,323,146	$ 17,882,408
– Current benefit obligations	21,159,773	22,193,284
– Funding ratio	81.87%	80.58%
Accrued Liability Funding Ratio		
– Current assets (AVA)	$ 17,323,146	$ 17,882,408
– Market value of assets (MVA)	14,917,240	13,813,826
– Actuarial accrued liability	22,081,634	23,114,802
– Funding ratio (AVA)	78.45%	77.36%
– Funding ratio (MVA)	67.55%	59.76%
Projected Benefit Funding Ratio		
– Current and expected future assets	$ 22,305,013	$ 22,605,285
– Current and expected future benefit obligations	24,981,006	26,107,302
– Funding ratio	89.29%	86.59%
Participant Data		
Active members		
– Number	77,356	77,162
– Projected annual earnings for fiscal year 2011 *(000s)*	4,047,547	4,049,217
– Average projected annual earnings for fiscal year 2010	52,324	52,450
– Average age	43.5	43.4*
– Average service	11.9	11.8
Service retirements	47,517	46,009
Survivors	3,682	3,575
Disability retirements	654	624
Deferred retirements	12,756	12,490
Terminated other non-vested	23,651	23,073
Total	**165,616**	**162,933**

** Modified after the 2009 valuation report was issued.*

Effects of Changes

The following changes in plan provisions and assumptions were recognized as of July 1, 2010:

- Post-retirement benefit increases are suspended for 2011 and 2012 and will resume in 2013 at 2.0%. The benefit increase will return to 2.5% if the accrued liability funding ratio of the plan reaches 90% (on a Market Value of Assets basis). To reflect the change in post-retirement benefit increase from 2.5% to 2.0% after 2012, the post-retirement investment return assumption was changed from 6.0% to 6.5% for years after 2012, and to 8.5% for 2011 and 2012.
- The interest rate credited on accumulated employee contributions changes from 6.0% to 4.0% beginning July 1, 2011.
- Future increases to deferred vested benefits (augmentation) change to 2.0% per year annually beginning July 1, 2012.
- The requirement for benefit recipients to receive a full post-retirement benefit adjustment changed from 12 full months receiving as of December 31 to 18 full months.
- The pre-retirement mortality assumption was changed from 1983 Group Annuity Mortality, male rates set back 12 years and female rates set back 10 years, to RP 2000 non-annuitant generational mortality, white collar adjustment, male rates set back 5 years and female rates set back 7 years.
- The post-retirement mortality assumption was changed from 1983 Group Annuity Mortality, male rates set back 6 years and female rates set back 3 years, to RP 2000 annuitant generational mortality, white collar adjustment, male rates set back 2 years and female rates set back 3 years.
- The post-disability mortality assumption was changed from a table based on the 1965 Railroad Retirement Board (RRB) rates to RP 2000 disabled retiree mortality, without any adjustments.
- Assumed disability rates were adjusted to better reflect actual experience.
- The assumed difference in ages between spouses was changed from females three years younger to females two years younger.
- The form of annuity election assumption for males was changed from 15% to 10% electing the 50% J&S form, from 25% to 15% electing the 75% J&S form, and from 55% to 70% electing the 100% J&S form. The form of annuity election assumption for females was changed from 30% to 50% electing the 100% J&S form.
- Assumed retirement rates for Coordinated members were adjusted to better reflect actual experience.

An additional change that was not recognized was the increase in future employee and employer contribution rates by 0.5% per year beginning July 1, 2011 through July 1, 2014.

Effects of Changes

The combined effect of the plan and assumption changes described on the prior page was to decrease the accrued liability by $1.75 billion and decrease the required contribution by 3.20% of payroll, as follows:

	Before Plan and Assumption Changes	Reflecting Plan Changes*	Reflecting Plan and Assumption Changes*
Accrued Liability Funding Ratio (AVA)	72.7%	78.2%	78.5%
Projected Benefit Funding Ratio	82.1%	89.3%	89.3%
Unfunded Accrued Liability (in billions)	$6.51	$4.82	$4.76
Normal Cost Rate (% of pay)	8.94%	8.28%	8.36%
Amortization of Unfunded Accrued Liability (% of pay) (AVA)	9.73%	7.21%	7.11%
Expenses (% of pay)	0.24%	0.24%	0.24%
Total Required Contribution (% of pay) (AVA)	18.91%	15.73%	15.71%
Contribution Deficiency (% of pay) (AVA)	(7.20%)	(4.02%)	(4.00%)

* *The effect of the change in the post-retirement investment return assumption was included in the "Reflecting Plan Changes" column.*

Alternative Actuarial Assumptions

Payroll growth and salary scale assumptions are set by Statute for the 2010 valuation, but will change effective with the July 1, 2011 valuation to the assumptions described as "Alternative Assumptions" in the *Actuarial Basis* section of this report. Had these alternative assumptions been reflected in the 2010 valuation, the results would be as follows:

	2010 Valuation Results	2010 Valuation Results Reflecting Alternative Payroll Growth and Salary Scale Assumptions
Accrued Liability Funding Ratio	78.5%	79.6%
Projected Benefit Funding Ratio	89.3%	90.3%
Unfunded Accrued Liability (in billions)	$4.76	$4.44
Normal Cost Rate (% of pay)	8.36%	8.15%
Amortization of Unfunded Accrued Liability (% of pay) (AVA)	7.11%	7.16%
Expenses (% of pay)	0.24%	0.24%
Total Required Contribution (% of pay)	15.71%	15.55%
Contribution Deficiency (% of pay) (AVA)	(4.00%)	(3.84%)

Effects of Changes

Valuation of Annual Benefit Increases

A very important assumption affecting the valuation results is the expectation of annual increases in the benefits being paid to retirees and beneficiaries. The plan's accrued liability funding ratio (on a market value of assets basis and assuming no increases in 2011 and 2012 and 2.0% post-retirement benefit increases in all future years) is currently 67.6%. If the plan reaches a funding ratio of 90% (on a market value of assets basis) in the future, post-retirement increases will revert to the 2.5% level.

We performed a projection of liabilities and assets, using the 2010 valuation results as a baseline and assuming future experience follows the valuation assumptions. The projection indicates that, without contribution increases (other than those effective beginning July 1, 2011 through July 1, 2014), changes in benefits or assumptions, or favorable experience, the funded status of this plan is expected to decline from the current level of 67.6% (on a market value basis).

The liabilities in this report are calculated using the reduced 2.0% annual increases for all future years. This approach was prescribed by TRA based on their interpretation of applicable Minnesota Statutes (and their consultation with the LCPR). If we had used annual increases of 2.5% instead of 2.0% after 2012, the liability would have been $1.5 billion higher ($23.6 billion instead of $22.1 billion), resulting in a funded ratio of 63.2% (on a market value basis).

Important Notices

Mercer has prepared this report exclusively for Trustees of the Minnesota Teachers Retirement Association (TRA) and the Legislative Commission on Pensions and Retirement (LCPR); Mercer is not responsible for reliance upon this report by any other party. Subject to this limitation, TRA may direct that this report be provided to its auditors in connection with audits of the Plan or its sponsoring entities.

The only purposes of this report are to:

- Present Mercer's actuarial estimates of the Plan's liabilities and expenses as required by Minnesota Statutes, Section 356.215 and the Standards for Actuarial Work established by the State of Minnesota LCPR for TRA to incorporate, as TRA deems appropriate, in its financial statements; and

- provide the actuarial required contribution rate for the period beginning July 1, 2010.

This report may not be used for any other purpose; Mercer is not responsible for the consequences of any unauthorized use.

Decisions about benefit changes, granting new benefits, investment policy, funding policy, benefit security and/or benefit-related issues should not be made on the basis of this valuation, but only after careful consideration of alternative economic, financial, demographic and societal factors, including financial scenarios that assume future sustained investment losses.

The State Board of Investment (SBI) is solely responsible for selecting the plan's investment policies, asset allocations and individual investments. Mercer's actuaries have not provided any investment advice to TRA or the SBI.

A valuation report is only a snapshot of a Plan's estimated financial condition at a particular point in time; it does not predict the Plan's future financial condition or its ability to pay benefits in the future and does not provide any guarantee of future financial soundness of the Plan. 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, the period of time over which benefits are paid, plan expenses and the amount earned on any assets invested to pay benefits. These amounts and other variables are uncertain and unknowable at the valuation date.

Because modeling all aspects of a situation is not possible or practical, we may use summary information, estimates, or simplifications of calculations to facilitate the modeling of future events in an efficient and cost-effective manner. We may also exclude factors or data that are immaterial in our judgment. Use of such simplifying techniques does not, in our judgment, affect the reasonableness of valuation results for the plan.

To prepare the valuation report, actuarial assumptions, as described in the *Actuarial Basis* section of this report, are used in a forward looking financial and demographic model to present a single scenario from a wide range of possibilities; the results based on that single scenario are included in the valuation. The future is uncertain and the plan's actual experience will differ from those assumptions; these differences may be significant or material because these results are very sensitive to the assumptions made and, in some cases, to the interaction between the assumptions.

Different assumptions or scenarios within the range of possibilities may also be reasonable and results based on those assumptions would be different. As a result of the uncertainty inherent in a forward looking projection over a very long period of time, no one projection is uniquely "correct" and many alternative projections of the future could also be regarded as reasonable. Two different actuaries could, quite reasonably, arrive at different results based on the same data and different views of the future. A "sensitivity analysis" shows the degree to which results would be different if you substitute alternative assumptions within the range of possibilities for those

Important Notices

utilized in this report. Other than the alternative calculations shown within, we have not been engaged to perform such a sensitivity analysis and thus the results of such an analysis are not included in this report. At TRA's request, Mercer is available to perform such a sensitivity analysis.

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. A change in assumptions is not an indication that prior assumptions were unreasonable when made.

Because valuations are a snapshot in time and are based on estimates and assumptions that are not precise and will differ from actual experience, contribution calculations are inherently imprecise. There is no uniquely "correct" level of contributions for the coming plan year.

Valuations do not affect the ultimate cost of the Plan, only the timing of contributions into the Plan. Plan funding occurs over time. Contributions not made this year, for whatever reason, including errors, remain the responsibility of the Plan sponsor and can be made in later years. If the contribution levels over a period of years are lower or higher than necessary, it is normal and expected practice for adjustments to be made to future contribution levels to take account of this with a view to funding the plan over time.

Data, computer coding and mathematical errors are possible in the preparation of a valuation involving complex computer programming and thousands of calculations and data inputs. Errors in a valuation discovered after its preparation may be corrected by amendment to the valuation or in a subsequent year's valuation.

Actuarial assumptions, including discount rates, mortality tables and others identified in this report, are prescribed by Minnesota Statutes Section 356.215, the LCPR, and the Trustees. These parties are responsible for selecting the plan's funding policy, actuarial valuation methods, asset valuation methods, and assumptions. The policies, methods and assumptions used in this valuation are those that have been so prescribed and are described in the *Actuarial Basis* section of this report. TRA is solely responsible for communicating to Mercer any changes required thereto.

To prepare this report Mercer has used and relied on financial data and participant data supplied by TRA and summarized in the *Plan Assets* and *Membership Data* sections of this report. TRA is responsible for ensuring that such participant data provides an accurate description of all persons who are participants under the terms of the plan or otherwise entitled to benefits as of the valuation date that is sufficiently comprehensive and accurate for the purposes of this report. Although Mercer has reviewed the data in accordance with Actuarial Standards of Practice No. 23, Mercer has not verified or audited any of the data or information provided.

Mercer has also used and relied on the summary of plan provisions, including amendments, and interpretations of plan provisions, supplied by TRA as summarized in the *Actuarial Basis* section of this report and on plan provisions stipulated by statute. We have assumed for purposes of this valuation that copies of any official plan document including all amendments and collective bargaining agreements as well as any interpretations of any such document have been provided to Mercer along with a written summary of any other substantive commitments. The Trustees are solely responsible for the validity, accuracy and comprehensiveness of this information. If any 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. Moreover, plan documents may be susceptible to different interpretations, each of which could be reasonable, and that the different interpretations could lead to different valuation results.

Important Notices

TRA should notify Mercer promptly after receipt of the valuation report if TRA disagrees with anything contained in the valuation report or is aware of any information that would affect the results of the valuation report that has not been communicated to Mercer or incorporated therein. The valuation report will be deemed final and acceptable to TRA unless TRA promptly provides such notice to Mercer.

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.

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. 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, 2010 *(Dollars in Thousands)*

		Market Value
Assets		
Cash and short-term investments		
▪ Cash	$	4,185
▪ Building account cash		2
▪ Short term investments		334,912
Total cash and short term investments	$	339,099
Receivables		13,961
Investments (at fair value)		
▪ Fixed income pool	$	3,670,822
▪ Minneapolis pool		153
▪ Alternative investments pool		2,327,655
▪ Indexed equity pool		2,383,658
▪ Domestic equity pool		3,914,537
▪ Global equity pool		2,301,526
Total investments	$	14,598,351
Securities lending collateral		1,343,468
Building		
▪ Land	$	171
▪ Building and equipment		11,279
– Reserve for building depreciation		(2,532)
▪ Deferred bond charge		146
– Reserve for deferred bond charge amortization		(45)
Total building	$	9,019
Fixed assets net of accumulated depreciation		1,324
Total Assets	**$**	**16,305,222**

Plan Assets

Statement of Plan Net Assets for Year Ended June 30, 2010 *(continued)*

(Dollars in Thousands)

		Market Value
Liabilities		
Current		
▪ Accounts payable	$	12,180
▪ Accrued compensated absences		62
▪ Accrued expenses - building		1
▪ Bonds payable		255
▪ Bonds interest payable		45
▪ Securities lending collateral		1,343,468
Total current liabilities	$	1,356,011
Long term		
▪ Accrued compensated absences	$	707
▪ Accrued OPEB liability*		43
▪ Bonds payable		8,921
Total long term liabilities	$	9,671
Total Liabilities	**$**	**1,365,682**
Net assets held in trust for pension benefits	**$**	**14,939,540**
▪ Earnings Limitation Savings Account (ELSA) accounts payable		(22,300)
Net assets held in trust, after adjustment for ELSA accounts	**$**	**14,917,240**

** Not calculated by Mercer.*

Plan Assets

Reconciliation of Plan Assets

The following exhibit shows the revenue, expenses and resulting assets of the Fund as reported by the Teachers Retirement Association, for the Plan's fiscal year July 1, 2009 to June 30, 2010.

Change in Assets *(dollars in thousands)*	**Market Value**
1. Fund balance at market value at July 1, 2009	**$ 13,813,826**
2. Contributions	
a. Member	$ 214,909
b. Employer	220,538
c. Direct aid (state/city/county)	21,550
d. Earnings Limitation Savings Account (ELSA)	1,257
e. Total contributions	$ 458,254
3. Investment income	
a. Investment income/(loss)	$ 2,109,356
b. Investment expenses	(21,716)
c. Total investment income/(loss)	$ 2,087,640
4. Other	3,593
5. Total income *(2.e. + 3.c. + 4.)*	**$ 2,549,487**
6. Benefits Paid	
a. Annuity benefits	$ (1,421,382)
b. Refunds	(12,804)
c. Total benefits paid	$ (1,434,186)
7. Administrative expenses	(9,587)
8. Total disbursements *(6.c. + 7.)*	**$ (1,443,773)**
9. Increase in ELSA account value	(2,300)
10. Fund balance at market value at July 1, 2010	**$ 14,917,240**

Plan Assets

Actuarial Asset Value *(Dollars in Thousands)*

					June 30, 2010
1. Market value of assets available for benefits*				**$**	**14,917,240**
2. Determination of average balance					
a. Assets available at July 1, 2009*				$	13,833,826
b. Assets available at June 30, 2010*					14,939,540
c. Net investment income for fiscal year ending June 30, 2010					2,087,640
d. Average balance *[a. + b. – c.] / 2*				$	13,342,863
3. Expected return *[8.5% * 2.d.]*					1,134,143
4. Actual return					2,087,640
5. Current year unrecognized asset return					953,497
6. Unrecognized asset returns**					
		Original Amount	**% Not Recognized**		
a. Year ended June 30, 2010	$	953,497	80%	$	762,798
b. Year ended June 30, 2009		(4,812,478)	60%		(2,887,487)
c. Year ended June 30, 2008		(1,066,002)	40%		(426,401)
d. Year ended June 30, 2007		725,920	20%		145,184
e. Total return not yet recognized				$	(2,405,906)
7. Actuarial value of assets at June 30, 2010 *(1. – 6.e.)*				**$**	**17,323,146**

* *Before recognition of ELSA accounts payable.*

** *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 7/1/2009	**77,786**	**35,563**	**46,108**	**624**	**3,476**	**163,557**
New hires	4,397	-	-	-	-	**4,397**
Return from inactive	1,415	(1,415)	-	-	-	**0**
Return from zero balance	475	-	-	-	-	**475**
Transfer to inactive	(3,922)	3,922	-	-	-	**0**
Refunded	(258)	(1,379)	-	-	-	**(1,637)**
Restored writeoff	-	128	-	-	-	**128**
Repay refunds	-	47	-	-	-	**47**
Transfer from non-status	-	30	-	-	-	**30**
Retirements	(1,771)	(583)	2,366	(41)	-	**(29)**
Benefits began	-	-	-	59	378	**437**
Benefits ended	-	-	-	(5)	(59)	**(64)**
Deaths	(57)	(31)	(914)	(19)	(113)	**(1,134)**
Adjustments	(146)	125	(4)	(3)	-	**(28)**
Net changes	133	844	1,448	(9)	206	**2,622**
Members on 6/30/2010	**77,919**	**36,407**	**47,556**	**615**	**3,682**	**166,179**

* *All figures in this chart were provided by the Teachers Retirement Association. Active member counts doublecount 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.*

** *Active members include 41 Basic and 77,315 Coordinated members.*

*** *Former members include 39 Basic members and 36,368 Coordinated members.*

**** *Benefit recipients include 5,377 Basic members and 46,476 Coordinated members.*

Former Member Statistics	Vested	Non-vested	Total
Number	12,756	23,651	36,407
Average Age	48.4	42.8	44.8
Average Service	7.4 years	0.9 years	3.2 years
Average annual benefits, with augmentation to Normal Retirement Date and 4% Combined Service Annuity load	$8,946	N/A	N/A
Average refund value, with 4% Combined Service Annuity load	$25,874	$1,854	$10,271

Membership Data

Distribution of Active Members*

	Years of Service as of June 30, 2010										
Age	<3**	3 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 +	Total
<25	2,297	18	1								**2,316**
Avg. Earnings	18,912	42,208	40,401								**19,102**
25 – 29	4,347	3,081	1,830	1							**9,259**
Avg. Earnings	23,909	38,510	44,726	34,678							**32,883**
30 – 34	1,868	1,567	5,198	1,543							**10,176**
Avg. Earnings	22,493	38,772	47,486	57,609							**43,091**
35 – 39	1,399	817	2,364	4,675	884						**10,139**
Avg. Earnings	19,744	37,511	47,094	59,295	65,672						**49,794**
40 – 44	1,414	659	1,685	2,628	3,491	646					**10,523**
Avg. Earnings	16,498	36,185	44,542	58,018	66,298	68,651					**52,314**
45 – 49	1,233	568	1,345	1,617	1,975	2,443	634	1			**9,816**
Avg. Earnings	15,186	32,550	45,542	56,655	64,552	68,813	69,906	47,568			**53,998**
50 – 54	1,024	467	1,083	1,408	1,464	1,654	1,851	918	1		**9,870**
Avg. Earnings	14,203	30,113	43,446	56,894	63,463	67,949	69,735	69,653	49,593		**56,143**
55 – 59	781	323	830	1,163	1,371	1,418	1,302	2,064	510	1	**9,763**
Avg. Earnings	11,259	30,358	41,732	54,267	61,605	67,320	70,169	72,442	72,436	87,383	**58,812**
60 – 64	504	163	402	526	694	680	567	407	453	82	**4,478**
Avg. Earnings	7,925	17,675	35,902	51,448	61,343	68,484	71,724	76,713	75,426	73,438	**55,737**
65 – 69	248	53	78	85	72	84	59	47	30	43	**799**
Avg. Earnings	4,874	13,516	23,414	48,011	62,549	68,485	76,316	82,847	94,094	79,561	**40,963**
70+	119	23	25	10	9	8	5	3	5	10	**217**
Avg. Earnings	3,926	6,473	23,876	25,379	61,421	58,529	85,270	86,966	103,721	89,974	**21,168**
Total	**15,234**	**7,739**	**14,841**	**13,656**	**9,960**	**6,933**	**4,418**	**3,440**	**999**	**136**	**77,356**
Avg. Earnings	**18,910**	**36,279**	**45,475**	**57,472**	**64,457**	**68,238**	**70,248**	**72,351**	**74,576**	**76,692**	**48,966**

* *Unlike the exhibit on page 14, the counts in this exhibit do not include disabled participants. Active members include 41 Basic and 77,315 Coordinated members.*

***This exhibit does not reflect service earned in Combined Service Annuity benefits. It should not be relied upon as an indicator of non-vested status.*

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, 2010 as reported by the Teachers Retirement Association of Minnesota.

Membership Data

Distribution of Service Retirements*

	Years Since Retirement as of June 30, 2010							
Age	**<1**	**1 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25+**	**Total**
<45						1**		**1**
Avg. Benefit						3,168		**3,168**
50 – 54	4	4						**8**
Avg. Benefit	14,003	13,676						**13,840**
55 – 59	763	1,886	50	1		2		**2,702**
Avg. Benefit	23,483	21,999	28,639	7,359		2,563		**22,521**
60 – 64	854	4,772	4,456	487	1	3		**10,573**
Avg. Benefit	21,451	23,899	22,428	28,413	20,072	2,142		**23,283**
65 – 69	302	2,175	4,325	4,521	84	5	1	**11,413**
Avg. Benefit	17,784	20,432	21,872	24,036	31,518	2,984	3,634	**22,410**
70 – 74	25	309	1,579	4,425	2,193	71	10	**8,612**
Avg. Benefit	19,772	16,454	19,774	27,940	30,681	22,703	7,122	**26,637**
75 – 79	5	32	182	1,515	3,341	1,203	35	**6,313**
Avg. Benefit	23,897	12,816	17,718	28,641	35,544	28,631	27,243	**31,886**
80 – 84		10	30	146	1,307	1,847	851	**4,191**
Avg. Benefit		29,057	18,361	27,559	32,973	32,095	34,349	**32,563**
85 – 89		1	7	21	111	882	1,288	**2,310**
Avg. Benefit		1,941	14,118	28,162	38,128	30,201	33,325	**32,244**
90+			1		7	81	1,305	**1,394**
Avg. Benefit			658		12,456	29,393	26,909	**26,962**
Total	**1,953**	**9,189**	**10,630**	**11,116**	**7,044**	**4,095**	**3,490**	**47,517**
Avg. Benefit	**21,661**	**22,398**	**21,737**	**26,462**	**33,521**	**30,374**	**31,031**	**26,141**

* *Unlike the exhibit on page 14, the counts in this exhibit do not include certain members that moved from disabled to retired status.*

** *Pertaining to the account of a former participant in the Minnesota Variable Annuity Fund.*

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, 2010							
Age	**<1**	**1 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25+**	**Total**
<45	7	35	46	44	3	1	3	**139**
Avg. Benefit	16,531	13,025	14,954	22,635	28,958	19,673	26,109	**17,556**
45 – 49	3	12	11	16	2	3	1	**48**
Avg. Benefit	17,395	11,888	12,528	26,637	6,958	36,737	15,736	**18,723**
50 – 54	6	31	19	10	6	5	7	**84**
Avg. Benefit	16,347	14,927	14,891	19,330	15,500	12,934	18,496	**15,764**
55 – 59	8	50	50	18	6	5	1	**138**
Avg. Benefit	19,071	20,029	18,479	17,122	20,578	11,969	38,018	**18,895**
60 – 64	14	90	129	64	30	5	3	**335**
Avg. Benefit	14,790	19,474	18,423	21,043	19,477	21,528	16,315	**19,176**
65 – 69	2	29	114	210	82	16	9	**462**
Avg. Benefit	13,025	19,105	16,417	22,833	23,962	20,918	20,501	**21,062**
70 – 74		14	55	183	268	56	23	**599**
Avg. Benefit		14,406	20,015	25,718	29,407	25,626	34,495	**26,911**
75 – 79		3	9	83	229	224	125	**673**
Avg. Benefit		5,940	17,382	24,338	31,977	33,693	33,393	**31,558**
80 – 84			4	20	92	248	287	**651**
Avg. Benefit			9,881	17,847	32,148	31,712	31,950	**31,318**
85 – 89			1	2	17	79	285	**384**
Avg. Benefit			24,508	22,355	31,876	33,290	33,794	**33,522**
90+		1	1	1	2	5	159	**169**
Avg. Benefit		2,565	25,830	12,809	28,560	29,215	31,853	**31,414**
Total	**40**	**265**	**439**	**651**	**737**	**647**	**903**	**3,682**
Avg. Benefit	**16,292**	**17,332**	**17,375**	**23,358**	**29,344**	**31,406**	**32,479**	**26,983**

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, 2010							
Age	**<1**	**1 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25+**	**Total**
<45	1	16	7	2				**26**
Avg. Benefit	13,754	8,024	5,675	3,890				**7,294**
45 – 49	1	17	8	4	1			**31**
Avg. Benefit	12,969	10,834	10,047	5,807	2,629			**9,786**
50 – 54	6	30	14	10	5			**65**
Avg. Benefit	14,405	17,846	14,373	13,951	12,323			**15,756**
55 – 59	8	58	66	28	13	3		**176**
Avg. Benefit	21,317	22,771	17,892	15,458	18,710	9,000		**19,177**
60 – 64	4	73	125	63	25	5	3	**298**
Avg. Benefit	27,596	21,184	22,431	25,429	29,255	16,814	19,847	**23,281**
65 – 69	37	16	1	2	2			**58**
Avg. Benefit	25,799	18,154	8,821	25,849	26,897			**23,437**
Total	**57**	**210**	**221**	**109**	**46**	**8**	**3**	**654**
Avg. Benefit	**23,660**	**19,074**	**19,524**	**20,707**	**23,753**	**13,884**	**19,847**	**20,167**

* *Unlike the exhibit on page 14, the counts in this exhibit include certain members that moved from disabled to retired status.*

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 is designed to enable the establishment of a level rate of contribution each year.

	June 30, 2010
A. Actuarial Value of Assets	$ 17,323,146
B. Expected future assets	
1. Present value of expected future statutory supplemental contributions*	$ 2,082,495
2. Present value of expected future normal cost contributions	2,899,372
3. Total expected future assets *(1. + 2.)*	$ 4,981,867
C. Total current and expected future assets**	$ 22,305,013

	Non-Vested Benefits	Vested Benefits	Total
D. Current benefit obligations			
1. Benefit recipients			
a. Service retirements	$ 0	$ 12,725,677	$ 12,725,677
b. Disability	0	159,513	159,513
c. Survivors	0	765,441	765,441
2. Deferred retirements with augmentation to Normal Retirement Date	0	500,185	500,185
3. Former members without vested rights***	43,842	0	43,842
4. Active members	36,814	6,928,301	6,965,115
5. Total Current Benefit Obligations	$ 80,656	$ 21,079,117	$ 21,159,773
E. Expected Future Benefit Obligations			$ 3,821,233
F. Total Current and Expected Future Benefit Obligations			$ 24,981,006
G. Unfunded Current Benefit Obligations *(D.5. – A.)*			$ 3,836,627
H. Unfunded Current and Future Benefit Obligations *(F. – C.)*			$ 2,675,993

* *Under LCPR guidelines, this amount does not include supplemental payments which could occur after the expiration of the remaining 27 year amortization period.*

** *Does not reflect deferred investment losses in the asset smoothing method. Total expected future assets on a market value basis are $19,899,107.*

*** *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	$ 9,894,546	$ 2,318,878	$ 7,575,668
b. Disability benefits	160,555	63,642	96,913
c. Survivor benefits	74,448	28,458	45,990
d. Deferred retirements	363,329	183,566	179,763
e. Refunds	293,470	304,828	(11,358)
f. Total	$ 10,786,348	$ 2,899,372	$ 7,886,976
2. Deferred retirements with future augmentation to Normal Retirement Date	500,185	0	500,185
3. Former members without vested rights	43,842	0	43,842
4. Benefit recipients	13,650,631	0	13,650,631
5. Total	$ 24,981,006	$ 2,899,372	$ 22,081,634
B. Determination of Unfunded Actuarial Accrued Liability (UAAL)*			
1. Actuarial accrued liability			$ 22,081,634
2. Actuarial value of assets			17,323,146
3. Unfunded actuarial accrued liability			$ 4,758,488
C. Determination of Supplemental Contribution Rate*			
1. Present value of future payrolls through the amortization date of July 1, 2037			$ 66,961,252
2. Supplemental contribution rate *(B.3. / C.1.)***			7.11%

* *On a market value of assets basis, the unfunded actuarial accrued liability is $7,164,394 and the supplemental contribution rate is 10.70% of payroll.*

** *The amortization factor as of July 1, 2010 is 16.5437.*

Development of Costs

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

		Year Ending June 30, 2010
A. Unfunded actuarial accrued liability at beginning of year	$	5,232,394
B. Changes due to interest requirements and current rate of funding*		
1. Normal cost and actual administrative expenses	$	369,166
2. Contributions		(458,254)
3. Interest on A., B.1. and B.2.		440,967
4. Total *(B.1. + B.2. + B.3.)*	$	351,879
C. Expected unfunded actuarial accrued liability at end of year *(A. + B.4.)*	$	5,584,273
D. Increase (decrease) due to actuarial losses (gains) because of experience deviations from expected		
1. Salary increases	$	(297,584)
2. Investment return (AVA)		1,061,858
3. Mortality of benefit recipients		44,520
4. Other items		119,882
5. Total	$	928,676
E. Unfunded actuarial accrued liability at end of year before plan amendments and changes in actuarial assumptions *(C. + D.5.)*	$	6,512,949
F. Change in unfunded actuarial accrued liability due to changes in plan provisions	$	(1,692,109)
G. Change in unfunded actuarial accrued liability due to changes in actuarial assumptions**	$	(62,352)
H. Change in unfunded actuarial accrued liability due to changes in actuarial asset method	$	0
I. Unfunded actuarial accrued liability at end of year *(E. + F. + G. + H.)*	$	4,758,488

* *The amortization of the unfunded actuarial accrued liability (UAAL) using the current amortization method results in initial payments less than the "interest only" payment on the UAAL. Payments less than the interest only amount will result in the UAAL increasing in the absence of actuarial gains.*

** *The effect of the change in the post-retirement investment return assumption benefit is included in Item F.*

Development of Costs

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

The annual required contribution (ARC) is the sum of normal cost, a supplemental contribution to amortize the UAAL, and an allowance for expenses.

	Percent of Payroll		Dollar Amount
A. Statutory contributions – Chapter 354*			
1. Employee contributions	5.50%	$	222,737
2. Employer contributions**	5.68%		229,799
3. Supplemental contributions***			
a. 1993 Legislation	0.12%		4,990
b. 1996 Legislation	0.09%		3,605
c. 1997 Legislation	0.32%		12,954
4. Total	11.71%	$	474,085
B. Required contributions – Chapter 356			
1. Normal cost			
a. Retirement benefits	6.83%	$	276,561
b. Disability benefits	0.17%		6,937
c. Survivors	0.08%		3,246
d. Deferred retirement benefits	0.56%		22,692
e. Refunds	0.72%		29,038
f. Total	8.36%	$	338,474
2. Supplemental contribution amortization by July 1, 2037 of Unfunded Actuarial Accrued Liability	7.11%		287,781
3. Allowance for expenses	0.24%	$	9,714
4. Total annual contribution for fiscal year ending June 30, 2010****	15.71%	$	635,969
C. Contribution Sufficiency/(Deficiency) *(A.4. – B.4.)*****	(4.00%)	$	(161,884)

Note: Projected annual payroll for fiscal year beginning on the valuation date: $4,047,547.

* *The rates shown do not reflect the statutory contribution increases that will be phased in beginning July 1, 2011.*

** *Employer contribution rate is blended to reflect rates of 13.14% of pay for 41 Basic members, 5.50% of pay for 74,515 Coordinated members not employed by Special School District #1, and 9.14% of pay for 2,800 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 19.30% of payroll and the contribution deficiency is (7.59%) of payroll.*

Development of Costs

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

	Percent of Payroll	Dollar Amount
A. Statutory contributions – Chapter 354		
1. Employee contributions	9.00%	$ 312
2. Employer contributions*	13.14%	455
3. Supplemental contributions**		
a. 1993 Legislation	0.12%	4
b. 1996 Legislation	0.09%	3
c. 1997 Legislation	0.32%	11
4. Total	22.67%	$ 785
B. Required contributions – Chapter 356		
1. Normal cost		
a. Retirement benefits	10.12%	$ 351
b. Disability benefits	0.46%	16
c. Survivors	0.41%	14
d. Deferred retirement benefits	1.86%	64
e. Refunds	0.38%	13
f. Total	13.23%	$ 458

Note: Projected annual payroll for fiscal year beginning on the valuation date: $3,462 for 41 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 Members *(Dollars in Thousands)*

	Percent of Payroll	Dollar Amount
A. Statutory contributions – Chapter 354		
1. Employee contributions	5.50%	$ 222,425
2. Employer contributions*	5.67%	229,344
3. Supplemental contributions**		
a. 1993 Legislation	0.12%	4,986
b. 1996 Legislation	0.09%	3,602
c. 1997 Legislation	0.32%	12,943
4. Total	11.70%	$ 473,300
B. Required contributions – Chapter 356		
1. Normal cost		
a. Retirement benefits	6.83%	$ 276,210
b. Disability benefits	0.17%	6,921
c. Survivors	0.08%	3,232
d. Deferred retirement benefits	0.56%	22,628
e. Refunds	0.72%	29,025
f. Total	8.36%	$ 338,016

Note: Projected annual payroll for fiscal year beginning on the valuation date: $4,044,085. This includes $3,853,992 for 74,515 Coordinated members who are not employed by Special School District #1 and $190,093 for 2,800 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. For valuation purposes, entry age for each member is determined as the age at valuation minus years of service as of the valuation date.

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 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.

Alternative actuarial results have been prepared assuming payroll increases of 3.75% per year.

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.

The Minnesota Post Retirement Investment Fund (MPRIF) was dissolved on June 30, 2009. 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 described above. Prior to June 30, 2009, MPRIF asset gains and losses were not smoothed.

Valuation and Accounting Procedures

To prepare this report Mercer has used and relied on financial data and participant data supplied by TRA and summarized in the *Plan Assets* and *Membership Data* sections of this report. Although Mercer has reviewed the data in accordance with Actuarial Standards of Practice No. 23, Mercer has not verified or audited any of the data or information provided.

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 $4,990,295 annually are assumed to be made until the amortization date of June 30, 2037 or full actuarial funding is achieved, whichever is earlier. 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 $3,605,204 annually are assumed to be made until the amortization date of June 30, 2037 or full actuarial funding is achieved, whichever is earlier. 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 decreased from $5,007,302 to $4,990,295 since the prior valuation, and the 1996 Legislation amount increased from $2,486,726 to $3,605,204 since the prior valuation.

Actuarial Basis

Decrement Timing

All decrements are assumed to occur on the anniversary of the valuation date, beginning on the valuation date. Decrement timing is a fundamental part of the computer programming underlying actuarial calculations. Mercer's valuation systems use beginning of year decrements, a generally accepted actuarial practice. The LCPR approved this modification to the Standards for Actuarial Work prior to the preparation of this report in order to ensure consistency and comparability.

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 2010, 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 2010, the limit is $245,000. Certain members first hired before July 1, 1995 may have a higher limit.

Alternative Assumptions

Economic assumptions are set by Statute for the 2010 valuation but are expected to be changed effective with the July 1, 2011 valuation. In this report, we provide alternative 2010 valuation results reflecting an alternative payroll growth assumption of 3.75% and an alternative service-based salary increase assumption (as shown on page 32).

Actuarial Basis

Summary of Actuarial Assumptions

The following assumptions were used in valuing the liabilities and benefits under the plan. All assumptions are prescribed by Statutes, the LCPR, or the Board of Trustees.

Investment return	8.5% compounded annually post-retirement for first 2 years 6.5% compounded annually post-retirement thereafter 8.5% compounded annually pre-retirement			
Benefit increases after retirement	Payment of 2.0% annual benefit increases after retirement are accounted for by using a 6.5% post-retirement assumption, as required by statute.			
Salary increases	Reported salary for prior fiscal year, with new hires annualized, increased according to the age-based 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	RP 2000 non-annuitant generational mortality, white collar adjustment, male rates set back 5 years and female rates set back 7 years			
Post-retirement	RP 2000 annuitant generational mortality, white collar adjustment, male rates set back 2 years and female rates set back 3 years			
Post-Disability	RP 2000 disabled retiree mortality, without adjustment			
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:			
		<u>First Year</u>	<u>Second Year</u>	<u>Third Year</u>
	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 two 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.
Commencement of deferred benefits	Members receiving deferred annuities (including current terminated deferred members) are assumed to begin receiving benefits at age 65.
Form of payment	Married members are assumed to elect subsidized joint and survivor form of annuity as follows: Males: 10% elect 50% J&S option 15% elect 75% J&S option 70% elect 100% J&S option Females: 20% elect 50% J&S option 10% elect 75% J&S option 50% elect 100% J&S option Members eligible for deferred annuities (including current terminated deferred members) are assumed to elect a life annuity.
Unknown data for members	We used membership data as supplied by the plan sponsor as of July 1, 2010. 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: Salary: $49,000 Data for terminated members: Date of birth: July 1, 1965 Average salary: $29,000 Age at termination: Age 40, or current age if younger than 40

Actuarial Basis

Summary of Actuarial Assumptions *(continued)*

Changes in actuarial assumptions since the previous valuation	The post-retirement investment return changed from 6.00% to 6.50% to reflect the change in post-retirement benefit increase from 2.50% to 2.00%. Pre-retirement mortality was changed from 1983 Group Annuity Mortality, male rates set back 12 years and female rates set back 10 years, to RP 2000 non-annuitant generational mortality, white collar adjustment, male rates set back 5 years and female rates set back 7 years. Post-retirement mortality was changed from 1983 Group Annuity Mortality, male rates set back 6 years and female rates set back 3 years, to RP 2000 annuitant generational mortality, white collar adjustment, male rates set back 2 years and female rates set back 3 years. Post-disability mortality was changed from the 1965 Railroad Retirement Board (RRB) rates through age 54, graded rates between 1965 RRB and the healthy post-retirement rates for ages 55 to 64 and the healthy post-retirement table for ages 65 and later to RP 2000 disabled retiree mortality, without any adjustments. Disability rates were changed to better reflect actual experience. Beneficiary age difference was changed from females three years younger to females two years younger. The form of annuity election assumption for males was changed from 15% to 10% electing the 50% J&S form, from 25% to 15% electing the 75% J&S form, and from 55% to 70% electing the 100% J&S form. The form of annuity election assumption for females was changed from 30% to 50% electing the 100% J&S form. Retirement rates for Coordinated members were changed to better reflect actual experience.

Actuarial Basis

Summary of Actuarial Assumptions *(continued)*

	Mortality Rates (%)					
	Pre-Retirement *		Post-Retirement **		Post-Disability	
Age	Male	Female	Male	Female	Male	Female
20	.0177	.0156	.0207	.0172	2.2571	.7450
25	.0226	.0176	.0255	.0176	2.2571	.7450
30	.0270	.0180	.0297	.0212	2.2571	.7450
35	.0336	.0224	.0457	.0335	2.2571	.7450
40	.0562	.0366	.0722	.0463	2.2571	.7450
45	.0821	.0488	.1006	.0656	2.2571	.7450
50	.1178	.0719	.1456	.1025	2.8975	1.1535
55	.1649	.1120	.4671	.2329	3.5442	1.6544
60	.2268	.1786	.4841	.4045	4.2042	2.1839
65	.3628	.2955	.8018	.6406	5.0174	2.8026
70	.5841	.4735	1.3752	1.0663	6.2583	3.7635
75	.8445	.7220	2.2964	1.7687	8.2067	5.2330

* *Rates shown are RP 2000 non-annuitant mortality, projected to 2010, white collar adjustment, set back 5 years for males and 7 years for females.*

** *Rates shown are RP 2000 annuitant mortality, projected to 2010, white collar adjustment, set back 2 years for males and 3 years for females.*

	Rate (%)			
	Ultimate Withdrawal		Disability	
Age	Male	Female	Male	Female
20	3.70	4.50	0.00	0.00
25	3.20	4.50	0.00	0.00
30	2.70	4.50	0.00	0.00
35	2.50	3.90	0.01	0.01
40	2.35	2.75	0.03	0.03
45	2.10	2.10	0.05	0.05
50	1.85	1.85	0.10	0.10
55	0.00	0.00	0.16	0.16
60	0.00	0.00	0.25	0.25
65	0.00	0.00	0.00	0.00
70	0.00	0.00	0.00	0.00
75	0.00	0.00	0.00	0.00

Actuarial Basis

Summary of Actuarial Assumptions *(continued)*

Salary Scale

Baseline Assumption		Alternative Assumption	
Age	Ultimate Salary Increase	Service	Salary Increase
20	5.5%	1	12.00%
25	5.5%	2	9.00%
30	5.5%	3	8.00%
35	5.5%	4	7.50%
40	5.2%	5	7.25%
45	4.7%	6	7.00%
50	4.5%	7	6.85%
55	4.5%	8	6.70%
60	4.8%	9	6.55%
65	5.2%	10	6.40%
70	5.2%	11	6.25%
		12	6.00%
		13	5.75%
		14	5.50%
		15	5.25%
		16	5.00%
		17	4.75%
		18	4.50%
		19	4.25%
		20	4.00%
		21	3.90%
		22	3.80%
		23	3.70%
		24	3.60%
		25 or more	3.50%

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	55	7	56	40	5
57	45	7	57	40	5
58	45	8	58	40	5
59	45	10	59	40	5
60	40	12	60	25	25
61	45	16	61	25	25
62	45	20	62	25	25
63	40	18	63	25	25
64	45	20	61	25	25
65	40	40	65	40	40
66	35	35	66	40	40
67	30	30	67	40	40
68	30	30	68	40	40
69	30	30	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. These members were transferred to TRA as part of the merger of the Minneapolis Teachers Retirement Fund Association (MTRFA) effective June 30, 2006.

Contributions

Shown as a percent of Salary:

Date of Increase	Member	Employer
July 1, 2010	9.00%	13.14%
July 1, 2011	9.50%	13.64%
July 1, 2012	10.00%	14.14%
July 1, 2013	10.50%	14.64%
July 1, 2014	11.00%	15.14%

After June 30, 2015, the member and employer contribution rates may be adjusted as follows:

- if a contribution sufficiency of at least 1% has existed for two consecutive years, the member and employer contribution rates may be decreased to a level that is necessary to maintain a 1% sufficiency

- if a contribution deficiency of at least 0.25% has existed for two consecutive years, the member and employer contribution rates may each be increased as shown:

Contribution Deficiency	Allowable Increase in Member and Employer Contribution Rates
<2% of pay	.25% of pay
2% to 4% of pay	.50% of pay
>4% of pay	.75% of pay

Potential contribution increases after June 30, 2015 are not reflected in this valuation report.

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.

Actuarial Basis

Summary of Plan Provisions *(continued)*

Basic Members

Salary	Periodic 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.
Retirement	
<u>*Normal retirement*</u>	
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.
<u>*Early retirement*</u>	
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.
<u>*Form of payment*</u>	Life annuity. Actuarially equivalent options are: (a.) 10 or 15 year Certain and Life (b.) 50%, 75% or 100% Joint and Survivor with bounce back feature (option is canceled if member is predeceased by beneficiary).
<u>*Benefit increases*</u>	Benefit recipients will receive no annual increases in 2011 and 2012. Beginning January 1, 2013 the annual increase will be 2.0% per year. When the funding ratio reaches 90% (on a Market Value of Assets basis), the annual increase will be 2.5%. A benefit recipient who has been receiving a benefit for at least 18 full months as of December 31 will receive a full increase. Members receiving benefits for at least six full months but less than 18 full months will receive a pro-rata increase.

Actuarial Basis

Summary of Plan Provisions *(continued)*

Basic Members

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.
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 if 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. 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 for retirement.

Actuarial Basis

Summary of Plan Provisions *(continued)*

Basic Members

Withdrawal	
<u>*Refund of contribution*</u>	
Age/service requirement	Termination of Teaching Service.
Amount	Member's contributions with 6.00% interest compounded annually through June 30, 2011. Beginning July 1, 2011, a member's contributions earn 4.00% interest compounded annually. A deferred annuity may be elected in lieu of a refund.
<u>*Deferred annuity*</u>	
Age/service requirement	Seven years of Teaching Service
Amount	The benefit is computed under law in effect at termination and increased by the following percentage compounded annually: (a.) 3.00% therefore until the earlier of January 1 of the year following attainment of age 55 and June 30, 2012; (b.) 5.00% thereafter until the earlier of June 30, 2012 and when the annuity begins; and (c.) 2.00% beginning July 1, 2012. 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 covered by the Social Security Act, except for teachers employed by St. Paul or Duluth public schools or by the University of Minnesota. Charter school teachers employed by St. Paul or Duluth public schools are covered by TRA.

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

Contributions

Shown as a percent of salary:

Date of Increase	Member	Employer
July 1, 2010	5.50%	5.50%
July 1, 2011	6.00%	6.00%
July 1, 2012	6.50%	6.50%
July 1, 2013	7.00%	7.00%
July 1, 2014	7.50%	7.50%

Employer also contributes Supplemental amount equal to 3.64% of Salary (members employed by Special School District #1 only).

After June 30, 2015, the member and employer contribution rates may be adjusted as follows:

- if a contribution sufficiency of at least 1% has existed for two consecutive years, the member and employer contribution rates may be decreased to a level that is necessary to maintain a 1% sufficiency

- if a contribution deficiency of at least 0.25% has existed for two consecutive years, the member and employer contribution rates may each be increased as shown below:

Contribution Deficiency	Allowable Increase in Member and Employer Contribution Rates
<2% of pay	.25% of pay
2% to 4% of pay	.50% of pay
>4% of pay	.75% of pay

Potential contribution increases after June 30, 2015 are not reflected in this valuation report.

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.

Actuarial Basis

Summary of Plan Provisions *(continued)*

Coordinated Members

Salary	Periodic 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 and three years of Allowable Service; or (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 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.
<u>*Early retirement*</u>	
Age/Service requirements	First hired before July 1, 1989: (a.) Age 55 and three years of Allowable Service; or (b.) Any age and 30 years of Allowable Service; or (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.

Actuarial Basis

Summary of Plan Providions (continued)

Coordinated Members

Retirement (continued)	
Amount	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 members: the monthly benefit that is actuarially equivalent to 2.2 times the 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 normal retirement age at 3.00% per year (2.50% per year for members hired after June 30, 2006) and actuarial reduction for each month the member is under the full Social Security benefit retirement age (not to exceed age 66).
Form of payment	Life annuity. Actuarially equivalent options are: (a.) 50%, 75% or 100% Joint and Survivor with 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 Members

Retirement (continued)	
Benefit Increases	Benefit recipients will receive no annual increase in 2011 and 2012. Beginning January 1, 2013 the annual increase will be 2.0% per year. When the funding ratio reaches 90% (on a Market Value of Assets basis), the annual increase will revert to 2.5%. A benefit recipient who has been receiving a benefit for at least 18 full months as of December 31 will receive a full increase. Members receiving benefits for at least six full months but less than 18 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.
Retirement after disability	
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 Members

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 for 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 through June 30, 2011. Beginning July 1, 2011, a member's contributions earn 4.00% interest compounded annually. 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.

Actuarial Basis

Summary of Plan Provisions *(continued)*

Coordinated Members

Withdrawal (continued)	
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 the earlier of January 1 of the year following attainment of age 55 and June 30, 2012; (b.) 5.00% thereafter until the earlier of June 30, 2012 and when the annuity begins; and (c.) 2.00% from July 1, 2012 forward. 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 members; the monthly benefit that is actuarially equivalent to 2.2 times the 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 June 30, 2012 and increased by 2.00% from July 1, 2012 forward until the annuity begins.
Changes in Plan Provisions	The following changes in plan provisions are reflected in this valuation: Future employee and employer contribution rates will increase 0.5% per year beginning July 1, 2011 through July 1, 2014. Benefit increases are suspended for 2011 and 2012 and resume in 2013 at 2.0%. The benefit increase will return to 2.5% if the accrued liability funding ratio of the plan reaches 90% (on a Market Value of Assets basis). Refund of contribution interest rate changes from 6.0% to 4.0% for earnings after July 1, 2011. Future increases to deferred vested benefits change to 2.0% per year annually beginning July 1, 2012. The requirement for benefit recipients to receive a full increase in benefits changed from 12 full months receiving as of December 31 to 18 full months.

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%
07/01/2010	17,323,146	22,081,634	4,758,488	78.45%	3,787,757	125.63%

[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%	3,787,757	214,909	421,813	242,088	57.39%
2011[11]	15.71%					

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%.*
11 *Actuarially Required Contribution Rate prior to change in Actuarial Assumptions and Plan Provisions is 18.91%.*

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

Supplementary Information Required by GASB

Valuation date	July 1, 2010
Actuarial cost method	Entry Age Normal
Amortization method	Level percentage of payroll, assuming payroll increases of 4.50% per annum
Remaining amortization period	27 years remaining as of July 1, 2010
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	6.50% per annum
Projected salary increases	Select and ultimate rates by age, with ultimate rates of 4.50% - 5.50%
Plan membership:	
Active members	
▪ *Vested*	62,121
▪ *Non-vested*	15,235
▪ *Sub total*	77,356
Pensioners and beneficiaries	51,853
Terminated vested members entitled to, but not yet receiving benefits	12,756
Other terminated non-vested members	23,651
Total	165,616

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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