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)*

	Original Amount	% Not Recognized	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**			
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	Benefit Recipients****: Disability Retirements	Benefit Recipients****: 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.