

December 2009

# **Teachers Retirement Association Fund**

Actuarial Valuation Report as of July 1, 2009

## **MERCER**



MARSH MERCER KROLL  
GUY CARPENTER OLIVER WYMAN

# Contents

- Highlights.....1
- Principal Valuation Results.....2
- Effects of Changes .....3
- Certification .....4
- Supplemental Information .....6
- Plan Assets.....7
  - Statement of Plan Net Assets for Year Ended June 30, 2009..... 7
  - Reconciliation of Plan Assets.....9
  - Actuarial Asset Value..... 10
- Membership Data.....11
  - Reconciliation of Members ..... 11
  - Distribution of Active Members..... 12
  - Distribution of Service Retirements ..... 13
  - Distribution of Survivors..... 14
  - Distribution of Disability Retirements ..... 15
- Development of Costs.....16
  - Actuarial Valuation Balance Sheet..... 16
  - Determination of Unfunded Actuarial Accrued Liability and Supplemental Contribution Rate ..... 17
  - Changes in Unfunded Actuarial Accrued Liability ..... 18
  - Determination of Contribution Sufficiency/(Deficiency)..... 19
  - Statutory and Required Contributions Amounts ..... 20
- Actuarial Basis.....22
  - Actuarial Cost Method ..... 22
  - Asset Valuation Method..... 23
  - Valuation and Accounting Procedures ..... 23
  - Summary of Actuarial Assumptions..... 25
  - Summary of Plan Provisions ..... 29
- Plan Accounting Under GASB 25 (as amended by GASB 50).....37
  - Schedule of Funding Progress Under Entry Age Normal Method..... 37
  - Schedule of Contributions from the Employer and Other Contributing Entities ..... 38
  - Supplementary Information Required by GASB..... 39
- Glossary .....40

## Highlights

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

- Present the results of a valuation of the Teachers Retirement Association Fund as of July 1, 2009.
- Review experience under the Plan for the year ended June 30, 2009.
- Provide reporting and disclosure information for governmental agencies and other interested parties.

## Contributions

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

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

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

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

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

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

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

## Principal Valuation Results

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

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

## Effects of Changes

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

### **Dissolution of Minnesota Post Retirement Investment Fund (MPRIF)**

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

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

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

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

### **Accrual Date Change**

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

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

### **MnSCU Faculty**

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

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

### **Asset Method**

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

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

## Certification

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

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

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

A valuation report is a snapshot of a plan's estimated financial condition at a particular point in time; it does not predict a plan's future financial condition or its ability to pay benefits in the future.

Over time, a plan's total cost will depend on a number of factors, including the amount of benefits the plan pays, the number of people paid benefits, plan expenses and the amount earned on any assets invested to pay the benefits. These amounts and other variables are uncertain and unknowable at the valuation date, but are predicted to fall within a reasonable range of possibilities.

To prepare this report, *Actuarial Assumptions*, as described in the Actuarial Basis section, are used to select a single scenario from a range of possibilities. The results of that single scenario are included in this report. However, the future is uncertain and the plan's actual experience will differ from those assumptions; these differences may be significant or material. In addition, different assumptions or scenarios may also be within the reasonable range and results based on those assumptions would be different. Actuarial assumptions may also be changed from one valuation to the next because of changes in mandated requirements, plan experience, changes in expectations about the future and other factors. Because of the limited scope of our assignment to produce an actuarial valuation, and the State's requirements for actuarial reports, the report does not include an analysis of the potential range of future possibilities and scenarios.

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

### Data and plan provisions

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

# Certification

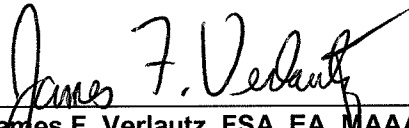
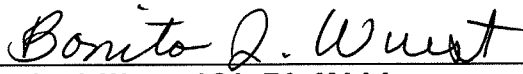
## Actuarial Calculations, Methods and Assumptions

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

## Professional qualifications

We are available to answer any questions on the material in this report or to provide explanations or further details as appropriate. The undersigned credentialed actuaries meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report. In addition, Mr. Verlautz meets the requirements of "approved actuary" under Minnesota Statutes, Section 356.215, Subdivision 1, Paragraph (c). We are not aware of any direct or material indirect financial interest or relationship, including investments or other services that could create a conflict of interest, that would impair the objectivity of our work.

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

	<u>12/14/09</u>
James F. Verlautz, FSA, EA, MAAA Principal	Date
	<u>12/14/2009</u>
Bonita J. Wurst, ASA, EA, MAAA Principal	Date
Mercer 333 South 7th Street, Suite 1600 Minneapolis, MN 55402-2427 612 642 8600	

## Supplemental Information

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

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

## Plan Assets

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

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

## Plan Assets

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

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

