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# **State Patrol Retirement Fund**

Actuarial Valuation Report as of July 1, 2009

## **MERCER**



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## Highlights

This report has been prepared by Mercer for the Minnesota State Retirement System to:

- Present the results of a valuation of State Patrol Retirement 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 352B (% of Payroll)	26.00%	24.40%
Required Contributions – Chapter 356 (% of Payroll)	38.16%	34.49%
Sufficiency / (Deficiency)	(12.16%)	(10.09%)

Despite the 1.60% of pay increase in statutory contribution rates, the contribution deficiency increased from (10.09%) of payroll to (12.16%) of payroll. On a market value of assets basis, the plan moved from a deficiency of (10.62%) of payroll to a deficiency of (24.21%) 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, 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 (19.2%) for the plan year ending June 30, 2009. **Only 20% of the asset loss will be recognized in the actuarial value of assets. The remainder will be recognized over the next four years.** The actuarial value of assets earned 3.2% for the plan year ending June 30, 2009 as compared to the assumed rate of 8.50%.

Participant reconciliation and statistics are detailed in the “Participant 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” sections detail the required accounting information for the Plan under GASB Statement No. 25 (as amended by GASB 50).

There were no changes in actuarial assumptions since the July 1, 2008 valuation. Changes in plan provisions and valuation methods are reflected in this report and summarized in the Actuarial Basis 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 352B	26.00%	24.40%
Required – Chapter 356	38.16%	34.49%
Sufficiency / (Deficiency)	(12.16%)	(10.09%)
<b>Funding Ratios (dollars in thousands)</b>		
Accrued Benefit Funding Ratio		
– Current assets (AVA)	\$ 584,501	\$ 595,082
– Current benefit obligations	711,652	680,022
– Funding ratio	82.13%	87.51%
Accrued Liability Funding Ratio		
– Current assets (AVA)	\$ 584,501	\$ 595,082
– Current assets (MVA)	450,060	589,379
– Actuarial accrued liability	725,334	693,686
– Funding ratio (AVA)	80.58%	85.79%
– Funding ratio (MVA)	62.05%	84.96%
Projected Benefit Funding Ratio		
– Current and expected future assets	\$ 753,476	\$ 749,086
– Current and expected future benefit obligations	889,030	847,690
– Funding ratio	84.75%	88.37%
<b>Participant Data</b>		
Active members		
– Number	876	840
– Projected annual earnings (000s)	\$ 67,421	\$ 63,771
– Average annual earnings (projected)	\$ 76,965	\$ 75,918
– Average age	41.1	41.5
– Average service	12.0	12.4
Service retirements	673	660
Survivors	191	194
Disability retirements	44	42
Deferred retirements	41	35
Terminated other non-vested	11	7
<b>Total</b>	<b>1,836</b>	<b>1,778</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)**

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 MSRS and merged with the respective active member fund. 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 (COLA).

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

Other than the Asset Method change described below, the MPRIF dissolution and COLA changes did not have an impact on the valuation results.

### **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 2.10% of pay.

### **Disability Definitions**

The definitions of duty and regular disability were modified. This change did not have an impact on the valuation results.

## Certification

Mercer has prepared this report exclusively for the Board of Directors of the Minnesota State Retirement System and the Legislative Commission on Pensions and Retirement (LCPR) for the following purposes:

- Present the results of a valuation of the State Patrol Retirement 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 Board of Directors, 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. Due to the limited scope of our assignment, we did not perform, nor do we present, 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 Minnesota State Retirement System as of June 30, 2009, as well as participant data supplied by the Minnesota State Retirement System 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 Minnesota State Retirement System. A summary of the plan provisions valued is presented in our report. The Board of Directors 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

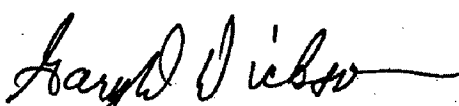
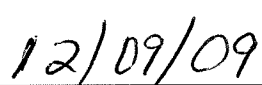

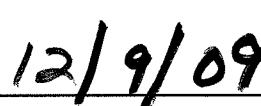
### Actuarial Calculations, Methods and Assumptions

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 Board of Directors 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. Dickson 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.

 _____ Gary Dickson, FSA, EA, MAAA Principal	 _____ Date
 _____ 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 Minnesota State Retirement System 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	Cost Value
<b>Assets in Trust</b>		
▪ Cash, equivalents, short term securities	\$ 10,321	\$ 10,321
▪ Fixed income	102,979	104,183
▪ Equity	410,463	457,768
▪ Other	0	0
<b>Total assets in trust</b>	<b>\$ 523,763</b>	<b>\$ 572,572</b>
Assets Receivable	914	914
<b>Total Assets</b>	<b>\$ 524,677</b>	<b>\$ 573,186</b>
Amounts Payable	(74,617)	(74,617)
<b>Net Assets held in trust for pension benefits</b>	<b>\$ 450,060</b>	<b>\$ 498,569</b>

## Plan Assets

### Reconciliation of Plan Assets

The following exhibit shows the revenue, expenses and resulting assets of the Fund as reported by the Minnesota State Retirement System and the Minnesota State Board of Investment, for the Plan's Fiscal Year July 1, 2008 to June 30, 2009.

Change in Assets (dollars in thousands)	Non-MPRIF Assets	MPRIF Reserve	Market Value
1. Fund balance at market value at July 1, 2008	\$ 231,785	\$ 357,594	\$ 589,379
2. Contributions			
a. Member	\$ 6,216	\$ 0	\$ 6,216
b. Employer	9,178	0	9,178
c. Other sources	0	0	0
d. Total contributions	\$ 15,394	\$ 0	\$ 15,394
3. Investment income*			
a. Investment income/(loss)	\$ (109,427)	\$ 0	\$ (109,427)
b. Investment expenses	(646)	0	(646)
c. Net investment income/(loss)	\$ (110,073)	\$ 0	\$ (110,073)
4. Other	13		13
<b>5. Total income (2.d. + 3.c. + 4.)</b>	<b>\$ (94,666)</b>	<b>\$ 0</b>	<b>\$ (94,666)</b>
6. Benefits Paid			
a. Annuity benefits	\$ (45)	\$ (44,435)	\$ (44,480)
b. Refunds	0	0	0
c. Total benefits paid	\$ (45)	\$ (44,435)	\$ (44,480)
7. Expenses			
a. Other	\$ (69)	\$ 0	\$ (69)
b. Administrative	(104)	0	(104)
c. Total Expenses	(173)	0	(173)
<b>8. Total disbursements (6.c. + 7.c.)</b>	<b>\$ (218)</b>	<b>\$ (44,435)</b>	<b>\$ (44,653)</b>
9. Other changes in reserves			
a. Annuities awarded	\$ (12,648)	\$ 12,648	\$ 0
b. Transfer between reserves	330,043	(330,043)	0
c. Mortality gain/(loss) not transferred	(4,236)	4,236	0
d. Change in assumptions	0	0	0
e. Total other changes	\$ 313,159	\$ (313,159)	\$ 0
<b>10. Fund balance at market value at June 30, 2009</b> (1. + 5. + 8 + 9.e.)	<b>\$ 450,060</b>	<b>\$ 0</b>	<b>\$ 450,060</b>

\* MPRIF investment income allocated to non-MPRIF assets by the Minnesota State Retirement System.

## Plan Assets

### Actuarial Asset Value (Dollars in Thousands)

	<b>June 30, 2009</b>		
1. Market value of assets available for benefits			\$ 450,060
2. Determination of average balance			
a. Total assets available at July 1, 2008			589,379
b. Total assets available at June 30, 2009			450,060
c. Net investment income for fiscal year ending June 30, 2009			(110,060)
d. Average balance $[a. + b. - c.] / 2$			574,749
3. Expected return $[8.5\% * 2.d.]$			48,854
4. Actual return			(110,060)
5. Current year asset gain/(loss) $[4. - 3.]$			(158,914)
6. Unrecognized asset returns*			
	<b>Original Amount</b>	<b>% Not Recognized</b>	
a. Year ended June 30, 2009	\$ (158,914)	80%	\$ (127,131)
b. Year ended June 30, 2008	(32,301)	60%	(19,380)
c. Year ended June 30, 2007	24,934	40%	9,974
d. Year ended June 30, 2006	10,480	20%	2,096
e. Total unrecognized return			\$ (134,441)
<b>7. Actuarial value at June 30, 2009 (1. - 6.e.)</b>			<b>\$ 584,501</b>

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

