

**Minnesota State Retirement System  
State Patrol Retirement Fund**

*Actuarial Valuation and Review  
as of July 1, 2006*

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*November 30, 2006*

*Mr. Dave Bergstrom  
Minnesota State Retirement System  
State Patrol Retirement Fund  
60 Empire Drive, Suite 300  
St. Paul, Minnesota 55103-3000*

*Dear Mr. Bergstrom:*

*We are pleased to submit this Actuarial Valuation and Review as of July 1, 2006. It summarizes the actuarial data used in the valuation, establishes the funding requirements for fiscal 2007 and analyzes the preceding year's experience.*

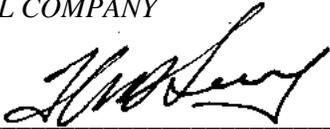
*The census and financial information on which our calculations were based was prepared by the Minnesota State Retirement System. That assistance is gratefully acknowledged. The actuarial calculations were completed under our supervision.*

*This actuarial valuation has been completed in accordance with generally accepted actuarial principles and practices. To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate. Further, in our opinion, the assumptions used in the valuation are consistent with those in the statute, and reasonably represent the experience of the plan.*

*We look forward to reviewing this report at your next meeting and to answering any questions.*

*Sincerely,*

*THE SEGAL COMPANY*

By:     
Thomas D. Levy, FSA, MAAA, EA      Andre Latia, FSA, MAAA, EA      Brad E. Ramirez, FSA, MAAA, EA  
Senior Vice President and Chief Actuary      Senior Vice President and Consulting Actuary      Consulting Actuary

cc: *Legislative Commission on Pensions and Retirement (3 copies)  
Minnesota Legislative Reference Library (6 copies)  
Minnesota Department of Finance (2 copies)*

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## SECTION 1: Valuation Summary for the State Patrol Retirement Fund

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### Purpose

This report has been prepared by The Segal Company to present a valuation of the Minnesota State Retirement System (State Patrol Retirement Fund) as of July 1, 2006. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits. The contribution requirements presented in this report are based on:

- Applicable Minnesota Statutes;
- The benefit provisions of the Retirement Fund, as administered by the Fund;
- The characteristics of covered active participants, inactive vested participants, pensioners and beneficiaries as of July 1, 2006, provided by the Fund;
- The assets of the Fund as of June 30, 2006, provided by the Fund;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other actuarial assumptions regarding employee terminations, retirement, death, etc.

## SECTION 1: Valuation Summary for the State Patrol Retirement Fund

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### Significant Issues in Valuation Year

The following key findings were the result of this actuarial valuation:

- The statutory contribution rate under Chapter 352B is equal to 21.00% of payroll compared to the required contribution rate under Chapter 356 of 26.69% of payroll. Therefore, the contribution deficiency is projected to be 5.69% of payroll or \$3,284,775.
- In accordance with the passage of the contribution rate increase bill, projected employee contribution increases are valued in projected refunds. Future statutory contribution rates are as follows:

<u>Effective Date</u>	<u>Employee Rate</u>	<u>Employer Rate</u>
Current	8.40%	12.60%
July 1, 2007	9.10	13.60
July 1, 2008	9.80	14.60
July 1, 2009	10.40	15.60

- The actuarial accrued liability funded ratio based on the actuarial value of assets over the actuarial accrued liability as of July 1, 2006 is 96.49% compared to 106.08% as of July 1, 2005. This ratio is a measure of funding status, and its history is a measure of funding progress, and is the ratio required to be reported under GASB 25. Before plan and assumption changes, the funded ratio was 105.16%.
- As indicated on page 4 of this report, the total unrecognized investment gain as of June 30, 2006 is \$14,428,853. This investment gain will be recognized in the determination of the actuarial value of assets for funding purposes in the next few years, to the extent it is not offset by recognition of investment losses derived from future experience.
- The following actuarial assumptions were updated to reflect the recommendations of the most recent experience study:
  - Mortality for pre-retirement and post-retirement,
  - Withdrawal rates (including the added select period), and
  - Retirement rates.

See Section 4, Exhibit VII for a description of the new assumptions.

- The changes in actuarial assumptions increased the actuarial accrued liability by \$52,874,991. Amortizing this over 30 years increases the required contribution by \$2,847,837, or 4.93% of payroll.

**SECTION 1: Valuation Summary for the State Patrol Retirement Fund**

**Summary of Key Valuation Results**

	<b>2006</b>	<b>2005</b>
<b>Contributions (% of payroll) for plan year beginning July 1:</b>		
Statutory – Chapter 352B	21.00%	21.00%
Required – Chapter 356	26.69%	19.84%
Sufficiency/(Deficiency)	-5.69%	1.16%
<b>Funding elements for plan year beginning July 1:</b>		
Normal cost	\$14,098,467	\$12,698,808
Market value of assets	633,419,202	600,428,179
Actuarial value of assets (AVA)	618,990,349	601,220,181
Actuarial accrued liability (AAL)	641,479,078	566,763,689
Unfunded/(Overfunded) actuarial accrued liability	22,488,729	-34,456,492
<b>Funded ratios:</b>		
<u>Accrued Benefit Funded Ratio</u>	98.33%	108.14%
Current assets (AVA)	\$618,990,349	\$601,220,181
Current benefit obligations	629,477,444	555,957,356
<u>Projected Benefit Funded Ratio</u>	92.23%	101.70%
Current and expected future assets	\$723,936,494	\$711,306,261
Current and expected future benefit obligations (Present Value of Benefits)	784,943,000	699,382,006
<b>GASB 25/27 for plan year beginning July 1:</b>		
Annual required employer contributions	\$6,741,285	\$5,491,099
Accrued Liability Funded Ratio (AVA/AAL)	96.49%	106.08%
Covered payroll	\$57,765,450	\$55,142,064
<b>Demographic data for plan year beginning July 1:</b>		
Number of pensioners and beneficiaries	846	825
Number of vested terminated participants	33	34
Number of other non-vested terminated participants	8	14
Number of active participants	851	831
Total projected payroll	\$57,765,450	\$55,142,064
Average projected payroll	67,879	66,356

**SECTION 2: Valuation Results for the State Patrol Retirement Fund**

**A. PARTICIPANT DATA**

The Actuarial Valuation and Review considers the number and demographic characteristics of covered participants, including active participants, vested terminated participants, pensioners and beneficiaries.

This section presents a summary of significant statistical data on these participant groups.

More detailed information for this valuation year and the preceding valuation can be found in Section 3, Exhibits A through F.

*A historical perspective of how the participant population has changed over the past four valuations can be seen in this chart.*

**CHART 1**  
**Participant Population: 2002 – 2006**

<b>Year Ended June 30</b>	<b>Active Participants</b>	<b>Vested Terminated Participants*</b>	<b>Pensioners and Beneficiaries</b>	<b>Ratio of Non-Actives to Actives</b>
2002	810	27	762	0.97
2003	805	20	785	1.00
2004	834	27	804	1.00
2005	831	34	825	1.03
2006	851	33	846	1.03

\* Excluded terminated participants due a refund of employee contributions.

**SECTION 2: Valuation Results for the State Patrol Retirement Fund**

**Active Participants**

Plan costs are affected by the age, years of service and payroll of active participants. In this year's valuation, there were 851 active participants with an average age of 41.0, average years of service of 12.3 years and average projected payroll of \$67,879. The 831 active participants in the prior valuation had an average age of 41.1, average service of 12.6 years and average projected payroll of \$66,356.

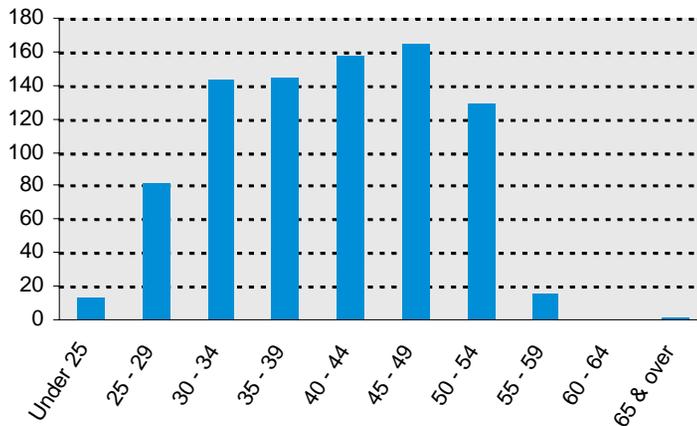
**Inactive Participants**

In this year's valuation, there were 33 participants with a vested right to a deferred or immediate vested benefit.

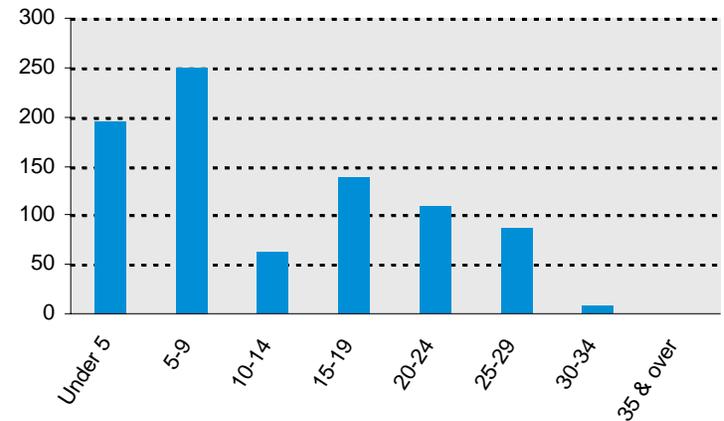
In addition, there were 8 other non-vested terminated participants entitled to a refund of employee contributions.

*These graphs show a distribution of active participants by age and by years of service.*

**CHART 2**  
**Distribution of Active Participants by Age as of June 30, 2006**



**CHART 3**  
**Distribution of Active Participants by Years of Service as of June 30, 2006**



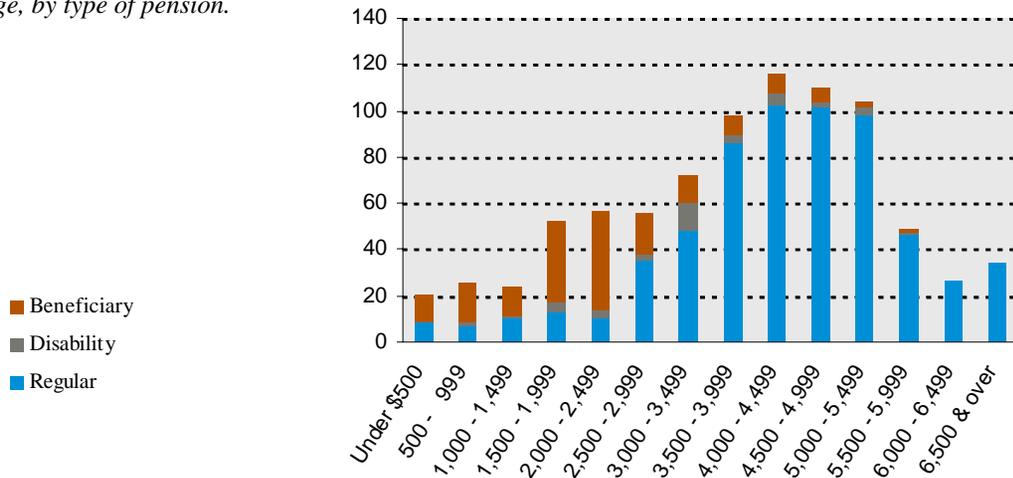
**SECTION 2: Valuation Results for the State Patrol Retirement Fund**

**Pensioners and Beneficiaries**

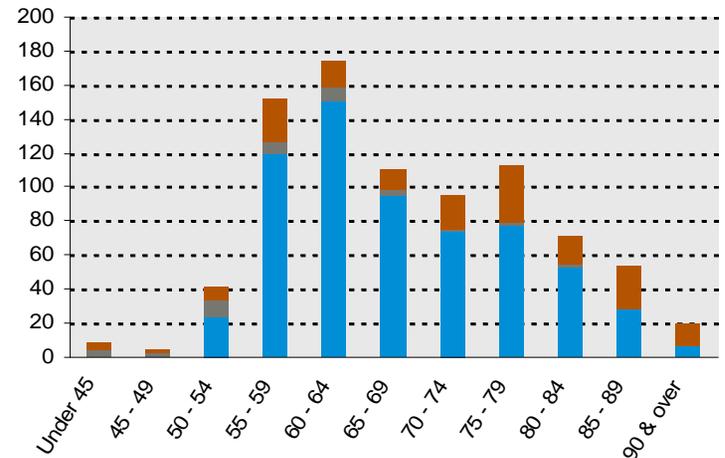
As of June 30, 2006, 667 pensioners (626 retired and 41 disabled participants) and 179 beneficiaries were receiving average monthly benefits of \$3,894. For comparison, in the previous valuation, there were 647 pensioners (612 retired and 35 disabled participants) and 178 beneficiaries receiving average monthly benefits of \$3,742.

*These graphs show a distribution of the current pensioners and beneficiaries based on their monthly amount and age, by type of pension.*

**CHART 4**  
**Distribution of Pensioners and Beneficiaries by Type and by Monthly Amount as of June 30, 2006**



**CHART 5**  
**Distribution of Pensioners and Beneficiaries by Type and by Age as of June 30, 2006**



**SECTION 2: Valuation Results for the State Patrol Retirement Fund**

**B. FINANCIAL INFORMATION**

It is desirable to have level and predictable plan costs from one year to the next. For this reason, Minnesota Statutes require an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the asset value and the plan costs are more stable. The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

Both the actuarial value and market value of assets are representations of the Fund’s financial status. As investment gains and losses are gradually taken into account, the actuarial value of assets tracks the market value of assets. Actuarial asset value is significant because the Fund’s liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the unfunded actuarial accrued liability is an important element in determining the contribution requirement.

*The chart shows the determination of the actuarial value of assets as of the valuation date.*

**CHART 6  
Determination of Actuarial Value of Assets for Year Ended June 30, 2006**

	Original Amount	% Not Recognized	
1. Market value of assets available for benefits			\$633,419,202
2. Calculation of unrecognized return			
(a) Year ended June 30, 2006	\$10,479,965	80%	\$8,383,972
(b) Year ended June 30, 2005	4,925,230	60%	2,955,138
(c) Year ended June 30, 2004	15,374,357	40%	6,149,743
(d) Year ended June 30, 2003	-15,300,000	20%	<u>-3,060,000</u>
(e) Total unrecognized return			\$14,428,853
3. Actuarial value of assets (“Current Assets”): (1) – (2e)			<u>\$618,990,349</u>
4. Actuarial value as a percent of market value			<u>97.7%</u>

**SECTION 2: Valuation Results for the State Patrol Retirement Fund**

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**C. ACTUARIAL EXPERIENCE**

To calculate the required contribution, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is measured against the assumptions. If overall experience is more favorable than anticipated (an actuarial gain), the contribution requirement will decrease from the previous year. On the other hand, the contribution requirement will increase if overall actuarial experience is less favorable than expected (an actuarial loss).

Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single year's experience was a short-term

development and that, over the long term, experience will return to the original assumptions. For contribution requirements to remain stable, assumptions should approximate experience.

If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years.

For the plan year ended June 30, 2006, the total loss is \$5,495,861, including a loss of \$10,430,339 from investments and a gain of \$4,934,478 from all other sources. The net experience variation from individual sources other than investments was 0.84% of the actuarial accrued liability.

*This chart provides a summary of the actuarial experience during the past year.*

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**CHART 7**  
**Actuarial Experience for Year Ended June 30, 2006**

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1. Net gain/(loss) from investments	-\$10,430,339
2. Net gain/(loss) from salary experience	2,920,024
3. Net gain/(loss) from other experience	<u>2,014,454</u>
4. Net experience gain/(loss): (1) + (2) + (3)	-\$5,495,861

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## SECTION 2: Valuation Results for the State Patrol Retirement Fund

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### **D. INFORMATION REQUIRED BY THE GASB**

Governmental Accounting Standards Board (GASB) reporting information provides standardized information for comparative purposes of governmental pension plans. This information allows a reader of the financial statements to compare the funding status of one governmental plan to another on relatively equal terms.

Critical information to GASB is the historical comparison of the GASB required contribution to the actual contributions. This comparison demonstrates whether a plan is being funded on an actuarially sound basis and in accordance with the GASB funding requirements. Section 4, Exhibit III presents a schedule of this information for the Fund.

The other critical piece of information regarding the Fund's financial status is the funded ratio. This ratio compares the actuarial value of assets to the actuarial accrued liabilities of the plan as calculated under GASB. High ratios indicate a well-funded plan with assets sufficient to pay most benefits. Lower ratios may indicate recent changes to benefit structures, funding of the plan below actuarial requirements, poor asset performance, or a variety of other changes.

GASB requires that the actuarial value of assets be used to determine the funded ratio, as shown in Section 4, Exhibit IV.

**SECTION 3: Supplemental Information for the State Patrol Retirement Fund**

**EXHIBIT A**

**Table of Plan Coverage**

<b>Category</b>	<b>Year Ended June 30</b>		<b>Change From Prior Year</b>
	<b>2006</b>	<b>2005</b>	
<b>Active participants in valuation:</b>			
Number	851	831	2.4%
Average age	41.0	41.1	N/A
Average service	12.3	12.6	N/A
Total projected payroll	\$57,765,450	\$55,142,064	4.8%
Average projected payroll	67,879	66,356	2.3%
Total active vested participants	697	715	-2.5%
<b>Vested terminated participants</b>	33	34	-2.9%
<b>Retired participants:</b>			
Number in pay status	626	612	2.3%
Average age	67.7	67.5	N/A
Average monthly benefit	\$4,389	\$4,288	2.4%
<b>Disabled participants:</b>			
Number in pay status	41	35	17.1%
Average age	58.4	59.6	N/A
Average monthly benefit	\$3,282	\$3,175	3.4%
<b>Beneficiaries:</b>			
Number in pay status	179	178	0.6%
Average age	73.2	71.9	N/A
Average monthly benefit	\$2,262	\$2,121	7.6%
<b>Other non-vested terminated participants</b>	8	14	-42.9%

**SECTION 3: Supplemental Information for the State Patrol Retirement Fund**

**EXHIBIT B**

**Participants in Active Service as of June 30, 2006  
By Age, Years of Service, and Average Projected Payroll**

Age	Years of Service								
	Total	Under 5	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over
Under 25	13	13	--	--	--	--	--	--	--
	\$42,971	\$42,971	--	--	--	--	--	--	--
25 - 29	82	68	14	--	--	--	--	--	--
	54,513	52,207	\$65,713	--	--	--	--	--	--
30 - 34	143	60	80	3	--	--	--	--	--
	58,078	43,780	68,405	\$68,660	--	--	--	--	--
35 - 39	145	29	77	22	17	--	--	--	--
	65,307	47,794	68,934	70,575	\$71,936	--	--	--	--
40 - 44	158	14	48	20	59	17	--	--	--
	71,720	59,549	70,004	73,040	74,014	\$77,075	--	--	--
45 - 49	165	6	19	16	36	58	30	--	--
	76,425	42,100	74,676	68,073	75,448	78,270	\$86,455	--	--
50 - 54	129	5	10	2	22	32	52	6	--
	76,127	31,820	75,967	69,321	76,957	79,270	78,816	\$72,470	--
55 - 59	15	1	2	--	4	2	4	2	--
	74,645	28,817	76,227	--	79,738	67,197	79,071	84,392	--
60 - 64	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--
65 & Over	1	--	--	--	--	--	--	--	1
	80,164	--	--	--	--	--	--	--	\$80,164
Total	851	196	250	63	138	109	86	8	1
	\$67,879	\$47,937	\$69,566	\$70,591	\$74,767	\$78,174	\$81,493	\$75,451	\$80,164

**SECTION 3: Supplemental Information for the State Patrol Retirement Fund**

**EXHIBIT C**

**Retired Participants as of June 30, 2006  
By Age, Years Since Retirement, and Average Annual Benefit**

Age	Years Since Retirement								
	Total	Under 5	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over
Under 45	--	--	--	--	--	--	--	--	--
45 - 49	--	--	--	--	--	--	--	--	--
50 - 54	24	2	2	1	1	4	13	1	--
55 - 59	\$41,011	\$3,861	\$11,781	\$23,655	\$37,207	\$36,481	\$52,783	\$60,023	--
60 - 64	132	2	3	4	11	23	52	37	--
65 - 69	48,010	6,331	11,021	20,648	31,579	40,602	51,364	60,996	--
70 - 74	146	2	1	3	9	15	60	55	1
75 - 79	52,567	3,639	12,317	20,425	38,481	44,595	56,093	57,602	\$44,986
80 - 84	91	2	1	2	2	13	36	32	3
85 - 89	56,443	5,733	10,553	14,146	36,034	46,314	57,202	68,390	54,704
90 & Over	76	1	1	3	3	11	30	26	1
	58,278	5,784	12,207	23,932	36,558	47,122	58,498	71,810	89,315
	78	1	--	5	2	13	23	32	2
	55,599	2,883	--	24,675	37,269	46,000	56,563	65,815	65,468
	48	1	--	4	2	16	10	13	2
	53,491	5,020	--	22,454	46,969	46,261	57,590	70,431	73,547
	26	--	1	1	2	4	10	6	2
	49,231	--	16,882	21,347	21,114	37,046	52,429	68,912	56,810
	5	--	--	--	--	3	--	2	--
	45,323	--	--	--	--	39,677	--	53,793	--
Total	626	11	9	23	32	102	234	204	11
	\$52,672	\$4,801	\$12,065	\$21,833	\$35,104	\$43,868	\$55,291	\$64,133	\$62,733

**SECTION 3: Supplemental Information for the State Patrol Retirement Fund**

**EXHIBIT D**

**Disabled Participants as of June 30, 2006  
By Age, Years Since Disability, and Average Annual Benefit**

Age	Years Since Disability							
	Total	Under 5	5-9	10-14	15-19	20-24	25-29	30 & Over
Under 45	4	--	--	--	1	3	--	--
	\$36,193	--	--	--	\$26,088	\$39,562	--	--
45 - 49	2	--	--	--	--	2	--	--
	43,422	--	--	--	--	43,422	--	--
50 - 54	12	--	3	2	2	3	1	1
	34,101	--	\$15,012	\$38,441	30,147	36,745	\$53,995	\$62,766
55 - 59	6	1	--	--	1	2	1	1
	38,622	\$8,276	--	--	27,336	46,631	36,568	66,288
60 - 64	9	--	--	1	1	6	1	--
	43,493	--	--	35,342	39,579	42,154	63,597	--
65 - 69	3	--	--	1	--	--	2	--
	48,184	--	--	37,126	--	--	53,713	--
70 - 74	1	--	--	--	--	1	--	--
	45,914	--	--	--	--	45,914	--	--
75 - 79	2	--	--	--	2	--	--	--
	37,833	--	--	--	37,833	--	--	--
80 - 84	2	--	--	--	1	--	1	--
	42,289	--	--	--	21,129	--	63,449	--
85 - 89	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
90 & over	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
Total	41	1	3	4	8	17	6	2
	\$39,383	\$8,276	\$15,012	\$37,338	\$31,261	\$41,639	\$54,172	\$64,527

**SECTION 3: Supplemental Information for the State Patrol Retirement Fund**

**EXHIBIT E**

**Beneficiaries as of June 30, 2006  
By Age, Years Since Death, and Average Annual Benefit**

Age	Years Since Death								
	Total	Under 5	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over
Under 45	2	--	--	1	--	--	--	1	--
	\$20,545	--	--	\$27,325	--	--	--	\$13,765	--
45 - 49	4	1	--	1	1	--	1	--	--
	27,750	\$32,791	--	52,431	\$13,782	--	\$11,994	--	--
50 - 54	7	--	1	--	--	4	1	1	--
	24,431	--	\$10,753	--	--	\$21,365	40,422	34,387	--
55 - 59	28	5	3	4	1	4	4	6	1
	15,154	5,233	6,438	7,743	18,826	13,511	33,589	19,411	\$24,177
60 - 64	12	--	1	--	--	1	7	1	2
	31,141	--	53,651	--	--	27,548	30,248	24,551	28,103
65 - 69	13	2	--	--	1	3	5	1	1
	32,620	17,083	--	--	13,724	26,019	39,790	43,233	55,928
70 - 74	21	1	1	2	2	8	3	4	--
	32,822	64,590	18,499	17,652	26,284	33,988	26,527	41,704	--
75 - 79	35	2	1	1	4	6	12	8	1
	33,236	16,396	25,927	18,618	18,920	29,282	41,018	38,229	36,516
80 - 84	23	--	1	2	1	3	10	5	1
	27,923	--	9,630	15,170	12,341	31,854	28,388	36,604	27,447
85 - 89	18	1	1	--	3	--	6	6	1
	22,899	5,583	23,292	--	22,466	--	18,143	28,927	33,489
90 & over	16	1	1	1	4	1	--	6	2
	25,465	25,347	30,818	9,408	19,052	19,019	--	30,901	30,615
Total	179	13	10	12	17	30	49	39	9
	\$27,148	\$17,033	\$19,189	\$17,033	\$19,443	\$26,910	\$31,877	\$31,975	\$32,777

**SECTION 3: Supplemental Information for the State Patrol Retirement Fund**

**EXHIBIT F**

**Reconciliation of Participant Data**

	<b>Active Participants</b>	<b>Vested Former Participants</b>	<b>Other Non-Vested Terminated Participants</b>	<b>Disabled</b>	<b>Retired Participants</b>	<b>Beneficiaries</b>	<b>Total</b>
Number as of July 1, 2005	831	34	14	35	612	178	1,704
New participants	56	N/A	0	N/A	N/A	N/A	56
Terminations – with vested rights	-2	2	0	0	0	0	0
Terminations – other non-vested	-2	N/A	2	N/A	N/A	N/A	0
Terminated – refund	-2	0	0	0	0	0	-2
Transferred to fund	0	0	-2	0	0	0	-2
Retirements	-28	-1	0	N/A	29	N/A	0
New disabilities	-5	-1	0	6	N/A	N/A	0
Died with beneficiary	0	0	0	0	-16	16	0
Died without beneficiary	-2	0	0	0	-17	-9	-28
Rehired	2	-1	-1	0	0	N/A	0
Data adjustments	3	0	-5	0	18	-6	10
Valuation number as of July 1, 2006	851	33	8	41	626	179	1,738

**SECTION 3: Supplemental Information for the State Patrol Retirement Fund**

**EXHIBIT G**

**Summary Statement of Income and Expenses on a Market Value Basis for Year Ended June 30, 2006**

	Non-MPRIF Assets	MPRIF Reserve	Market Value
A. Assets available at beginning of period	\$242,429,987	\$357,998,192	\$600,428,179
B. Operating revenues:			
1. Member contributions	\$4,719,380	-	\$4,719,380
2. Employer contributions	7,055,235	-	7,055,235
3. MPRIF income	-	\$29,785,593	29,785,593
4. Net investment income			
(a) Interest and dividends	26,148,069	-	26,148,069
(b) Net appreciation/(depreciation)	4,080,798	-	4,080,798
(c) Investment expenses	<u>312,235</u>	<u>-</u>	<u>312,235</u>
(d) Net subtotal	30,541,102	-	\$30,541,102
5. Other	<u>-</u>	<u>-</u>	<u>-</u>
6. Total additions	\$42,315,717	\$29,785,593	\$72,101,310
C. Operating expenses:			
1. Benefits	-	\$38,767,492	\$38,767,492
2. Refunds	\$52,042	-	52,042
3. Administrative expenses	100,637	-	100,637
4. Other	<u>190,116</u>	<u>-</u>	<u>190,116</u>
5. Total operating expenses	\$342,795	\$38,767,492	\$39,110,287
D. Other changes in reserves:			
1. Annuities awarded	-\$24,265,033	\$24,265,033	-
2. Mortality gain/(loss)	-5,423,933	5,423,933	-
3. Change in MPRIF assumptions	<u>34,450,241</u>	<u>34,450,241</u>	<u>-</u>
4. Total other changes	-\$64,139,207	\$64,139,207	-
E. Assets available at end of period	\$220,263,702	\$413,155,500	\$633,419,202
F. Determination of current year unrecognized asset return (UAR)			
1. Average balance:			
(a) Non-MPRIF assets available at BOY: (A)			\$242,429,987
(b) Non-MPRIF assets available at EOY*: (E) – (D.2)			260,137,876
(c) Average balance: [(F.1.a) + (F.1.b) – (B.4.d) – (B.5)]/2			236,013,381
2. Expected return: 8.50% x (F.1.c)			20,061,137
3. Actual return: (B.4.d) + (B.5)			<u>30,541,102</u>
4. Current year UAR: (F.3) – (F.2)			\$10,479,965

\* Before adjustment for MPRIF Mortality Gain/Loss

**SECTION 3: Supplemental Information for the State Patrol Retirement Fund****EXHIBIT H****Table of Financial Information for Year Ended June 30, 2006**

	<b>Market Value</b>	<b>Cost Value</b>
<b>Assets in trust</b>		
Cash, equivalents, short-term securities:	-\$2,375,119	-\$2,375,119
Fixed income	61,367,244	64,447,339
Equity	200,686,234	189,616,951
Equity in MPRIF	<u>413,155,500</u>	<u>413,155,500</u>
Total assets in trust	\$672,833,859	\$664,844,671
<b>Assets receivable</b>	\$643,770	\$643,770
<b>Total assets</b>	\$673,477,629	\$665,488,441
<b>Amounts currently payable</b>	-\$40,058,427	-\$40,058,427
<b>Assets available for benefits</b>		
MPRIF reserves	\$413,155,500	\$413,155,500
Member reserves	45,709,036	45,709,036
Other non-MPRIF reserves	<u>174,554,666</u>	<u>166,565,478</u>
<b>Net assets at Market/Cost Value</b>	<u>\$633,419,202</u>	<u>\$625,430,014</u>
<b>Net assets at Actuarial Value</b>	<u>\$618,990,349</u>	<u>\$618,990,349</u>

**SECTION 3: Supplemental Information for the State Patrol Retirement Fund**

**EXHIBIT I**

**Development of the Fund Through June 30, 2006**

<b>Year Ended June 30</b>	<b>Employer Contributions</b>	<b>Employee Contributions</b>	<b>Net Investment Return*</b>	<b>Administrative Expenses</b>	<b>Benefit Payments</b>	<b>Actuarial Value of Assets at End of Year</b>
2003	\$6,826,000	\$4,555,000	\$23,178,000	\$94,000	\$34,327,000	\$591,521,000
2004	6,504,011	4,493,495	27,879,769	94,988	35,518,013	594,785,274
2005	6,670,272	4,517,186	32,301,242	93,386	36,960,407	601,220,181
2006	7,055,235	4,719,380	44,915,724	100,637	38,819,534	618,990,349

\* *Net Investment Return on an Actuarial Value of Assets basis and net of investment fees.*



**SECTION 3: Supplemental Information for the State Patrol Retirement Fund**

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**EXHIBIT K**

**Definitions of Pension Terms**

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The following list defines certain technical terms for the convenience of the reader:

**Assumptions or Actuarial**

**Assumptions:**

The estimates on which the cost of the Fund is calculated including:

- (a) Investment return — the rate of investment yield that the Fund will earn over the long-term future;
- (b) Mortality rates — the death rates of employees and pensioners; life expectancy is based on these rates;
- (c) Retirement rates — the rate or probability of retirement at a given age;
- (d) Turnover rates — the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement.

**Normal Cost:**

The amount of contributions required to fund the benefit allocated to the current year of service.

**Actuarial Accrued Liability**

**For Actives:**

The equivalent of the accumulated normal costs allocated to the years before the valuation date.

**Actuarial Accrued Liability**

**For Pensioners:**

The single sum value of lifetime benefits to existing pensioners. This sum takes account of life expectancies appropriate to the ages of the pensioners and the interest that the sum is expected to earn before it is entirely paid out in benefits.

**Unfunded Actuarial Accrued**

**Liability:**

The extent to which the actuarial accrued liability of the Fund exceeds the assets of the Fund. There is a wide range of approaches to paying off the unfunded actuarial accrued liability, from meeting the interest accrual only to amortizing it over a specific period of time.

### SECTION 3: Supplemental Information for the State Patrol Retirement Fund

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#### **Amortization of the Unfunded**

**Actuarial Accrued Liability:** Payments made over a period of years equal in value to the Fund's unfunded actuarial accrued liability.

#### **Investment Return:**

The rate of earnings of the Fund from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next.

#### **Accrued Benefit Funded Ratio:**

A current year funded status that measures the percent of benefits covered by Current Assets. This ratio is based on benefits earned to the valuation date (accrued service) and includes future salary increases to retirement. The liability for these benefits is defined as the Current Benefit Obligations. The Accrued Benefit Funded Ratio is calculated as the Actuarial Value of Assets (Current Assets) divided by the Current Benefit Obligations.

#### **Projected Benefit Funded Ratio:**

A projected funded status that measures contribution sufficiency/deficiency, which is based on a present value of all plan benefits for the lifetime of all plan members. The liability for these benefits is defined as the Current and Expected Future Benefit Obligations, or Present Value of Benefits. The Current and Expected Future Assets are determined as the sum of the Actuarial Value of Assets (Current Assets), the Present Value of Expected Future Statutory Supplemental Contributions and the Present Value of Future Normal Costs. The Projected Benefit Funded Ratio is calculated as the Current and Expected Future Assets divided by the Current and Expected Future Benefit Obligations. If the ratio is equal to or more than 100%, there is a contribution sufficiency, and if it is less than 100% there is a contribution deficiency.

## SECTION 4: Reporting Information for the State Patrol Retirement Fund

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### EXHIBIT I

#### Summary of Actuarial Valuation Results

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The valuation was made with respect to the following data supplied to us:

1. Pensioners as of the valuation date (including 179 beneficiaries in pay status)		846
2. Participants inactive during year ended June 30, 2006 with vested rights		33
3. Participants active during the year ended June 30, 2006		851
Fully vested	697	
Not vested	154	

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The actuarial factors as of the valuation date are as follows:

1. Normal cost		\$14,098,467
2. Present value of future benefits		784,943,000
3. Present value of future normal costs		143,463,922
4. Actuarial accrued liability		641,479,078
Pensioners and beneficiaries	\$413,424,168	
Inactive participants with vested rights	5,727,293	
Participants due refunds	22,760	
Active participants	222,304,857	
5. Actuarial value of assets (\$633,419,202 at market value)		\$618,990,349
6. Unfunded actuarial accrued liability		\$22,488,729

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**SECTION 4: Reporting Information for the State Patrol Retirement Fund**

**EXHIBIT I (continued)**

**Summary of Actuarial Valuation Results**

	<b>Actuarial Present Value of Projected Benefits</b>	<b>Actuarial Present Value of Future Normal Costs</b>	<b>Actuarial Accrued Liability</b>
<b>A. Determination of Actuarial Accrued Liability</b>			
1. Active participants:			
(a) Death benefits	\$9,197,300	\$6,160,061	\$3,037,239
(b) Disability benefits	23,415,794	13,465,166	9,950,628
(c) Withdrawal benefits	4,038,992	2,767,771	1,271,221
(d) Retirement benefits	328,985,020	120,513,037	208,471,983
(e) Refunds	<u>131,673</u>	<u>557,887</u>	<u>-426,214</u>
(f) Total	\$365,768,779	\$143,463,922	\$222,304,857
2. Vested terminated participants	\$5,727,293	-	\$5,727,293
3. Other non-vested terminated participants	22,760	-	22,760
4. Annuitants in MPRIF	413,155,500	-	413,155,500
5. Annuitants not in MPRIF	<u>268,668</u>	-	<u>268,668</u>
6. Total	\$784,943,000	\$143,463,922	\$641,479,078

**SECTION 4: Reporting Information for the State Patrol Retirement Fund**

**EXHIBIT I (continued)**

**Summary of Actuarial Valuation Results**

	<b>Actuarial Present Value of Projected Benefits</b>	<b>Actuarial Present Value of Future Normal Costs</b>	<b>Actuarial Accrued Liability</b>
<b>B. Determination of Unfunded Actuarial Accrued Liability</b>			
1. <u>Prior Assumptions</u>			
(a) Actuarial accrued liability			\$588,604,087
(b) Actuarial value of assets			<u>618,990,349</u>
(c) Unfunded actuarial accrued liability: (B.1.(a)) – (B.1.(b))			-\$30,386,262
2. <u>New Assumptions</u>			
(a) Actuarial Accrued Liability			\$641,479,078
(b) Actuarial Value of Assets			<u>618,990,349</u>
(c) Unfunded Actuarial Accrued Liability: (B.2.(a)) – (B.2.(b))			\$22,488,729
3. Change in Unfunded Actuarial Accrued Liability due to new assumptions			<u>\$52,874,991</u>
<b>C. Determination of Supplemental Contribution Rate</b>			
1. <u>Prior assumptions</u>			
(a) Present value of future payrolls through the amortization date of July 1, 2036			\$1,072,918,581
(b) Supplemental contribution rate: (B.1.(c)) / (C.1.(a))			-2.83%
2. <u>Change due to new assumptions</u>			
(a) Present value of future payrolls through the amortization date of July 1, 2036			1,072,918,581
(b) Supplemental contribution rate: (B.3) / (C.2.(a))			4.93%

**SECTION 4: Reporting Information for the State Patrol Retirement Fund**

**EXHIBIT II  
Actuarial Balance Sheet**

A. Current Assets				\$618,990,349
B. Expected Future Assets				
1. Present Value of Expected Future Statutory Supplemental Contributions				-\$38,517,777
2. Present Value of Future Normal Costs				<u>143,463,922</u>
3. Total Expected Future Assets				\$104,946,145
C. Total Current and Expected Future Assets				\$723,936,494
D. Current Benefit Obligations	<b><u>Non-Vested</u></b>	<b><u>Vested</u></b>		<b><u>Total</u></b>
1. Benefit recipients:				
(a) Retirement annuities	-	\$349,977,852		\$349,977,852
(b) Disability benefits	-	18,992,761		18,992,761
(c) Beneficiaries	-	44,453,555		44,453,555
2. Vested terminated participants	-	5,727,293		5,727,293
3. Other non-vested terminated participants	-	22,760		22,760
4. Active participants	<u>\$2,558,957</u>	<u>207,744,266</u>		<u>210,303,223</u>
5. Total Current Benefit Obligations	\$2,558,957	\$626,918,487		\$629,477,444
E. Expected Future Benefit Obligations				<u>155,465,556</u>
F. Total Current and Expected Future Benefit Obligations - Present Value of Benefits: (D.5 + E)				\$784,943,000
G. Current Unfunded Actuarial Liability (D.5 - A)				\$10,487,095
H. Current and Future Unfunded Actuarial Liability (F - C)				\$61,006,506

**SECTION 4: Reporting Information for the State Patrol Retirement Fund**

**EXHIBIT III**

**Supplementary Information Required by the GASB – Schedule of Employer Contributions**

<b>Year Ended June 30</b>	<b>Actuarially Required Contribution Rate (a)</b>	<b>Actual Covered Payroll (b)</b>	<b>Actual Member Contributions (c)</b>	<b>Annual Required Employer Contributions [(a) x (b)] – (c) = (d)</b>	<b>Actual Employer Contributions<sup>(1)</sup> (e)</b>	<b>Percentage Contributed (e) / (d)</b>
1991	22.15%	\$32,365,000	\$2,751,000	\$4,418,000	\$4,825,000	109.21%
1992	22.58%	32,882,000	2,795,000	4,630,000	4,893,000	105.68%
1993	22.27%	35,765,000	3,040,000	4,925,000	5,288,000	107.37%
1994	21.94%	35,341,000	3,004,000	4,750,000	5,159,000	108.61%
1995	21.79%	37,518,000	3,189,000	4,986,000	5,583,000	111.97%
1996	21.34%	41,476,000	3,484,000	5,367,000	5,742,000	106.99%
1997	21.33%	41,996,000	3,746,000	5,212,000	6,151,000	118.02%
1998	15.67%	43,456,000	3,634,000	3,176,000	5,475,000	172.39%
1999	14.14%	45,333,000	3,850,000	2,560,000	5,712,000	223.13%
2000	15.17% <sup>(2)</sup>	48,167,000	4,044,000	3,263,000	6,069,000	185.99%
2001	15.48% <sup>(3)</sup>	48,935,000	4,145,000	3,430,000	6,166,000	179.77%
2002	14.00%	49,278,000	4,215,000	2,684,000	6,209,000	231.33%
2003	14.34% <sup>(4)</sup>	54,175,000	4,555,000	3,214,000	6,826,000	212.38%
2004	17.81%	51,619,135	4,493,495	4,699,873	6,504,011	138.39%
2005	18.15%	55,142,064	4,517,186	5,491,099	6,670,272	121.47%
2006	19.84%	57,765,450	4,719,380	6,741,285	7,055,235	104.66%
2007	26.69% <sup>(5)</sup>					

<sup>(1)</sup> Includes contributions from other sources (if applicable).

<sup>(2)</sup> Actuarially Required Contribution Rate calculated according to parameters of GASB 25 using a 30-year amortization of the negative unfunded accrued liability.

<sup>(3)</sup> Actuarially Required Contribution Rate prior to change in Asset Valuation Method is 15.15%.

<sup>(4)</sup> Actuarially Required Contribution Rate prior to change in Actuarial Assumptions is 14.20%.

<sup>(5)</sup> Actuarially Required Contribution Rate prior to change in Actuarial Assumptions is 21.76%.

**SECTION 4: Reporting Information for the State Patrol Retirement Fund**

**EXHIBIT IV**

**Supplementary Information Required by the GASB – Schedule of Funding Progress**

<b>Actuarial Valuation Date</b>	<b>Actuarial Value of Assets (a)</b>	<b>Actuarial Accrued Liability (AAL) (b)</b>	<b>Unfunded AAL (UAAL) (b) – (a)</b>	<b>Funded Ratio (a) / (b)</b>	<b>Actual Covered Payroll (Previous FY) (c)</b>	<b>UAAL as a Percentage of Covered Payroll [(b) – (a)] / (c)</b>
07/01/1991	\$200,068,000	\$224,033,000	\$23,965,000	89.30%	\$32,365,000	74.05%
07/01/1992	222,314,000	233,656,000	11,342,000	95.15%	32,882,000	34.49%
07/01/1993	244,352,000	258,202,000	13,850,000	94.64%	35,765,000	38.73%
07/01/1994	262,570,000	275,377,000	12,807,000	95.35%	35,341,000	36.24%
07/01/1995	284,918,000	283,078,000	-1,840,000	100.65%	37,518,000	-4.90%
07/01/1996	323,868,000	303,941,000	-19,927,000	106.56%	41,476,000	-48.04%
07/01/1997	375,650,000	332,427,000	-43,223,000	113.00%	41,996,000	-102.92%
07/01/1998	430,011,000	371,369,000	-58,642,000	115.79%	43,456,000	-134.95%
07/01/1999	472,687,000	406,215,000	-66,472,000	116.36%	45,333,000	-146.63%
07/01/2000	528,573,000	458,384,000	-70,189,000	115.31%	48,167,000	-145.72%
07/01/2001	572,815,000	489,483,000	-83,332,000	117.02%	48,935,000	-170.29%
07/01/2002	591,383,000	510,344,000	-81,039,000	115.88%	49,278,000	-164.45%
07/01/2003	591,521,000	538,980,000	-52,541,000	109.75%	54,175,000	-96.98%
07/01/2004	594,785,274	545,243,508	-49,541,766	109.09%	51,619,135	-95.98%
07/01/2005	601,220,181	566,763,689	-34,456,492	106.08%	55,142,064	-62.49%
07/01/2006	618,990,349	641,479,078	22,488,729	96.49%	57,765,450	38.93%

**SECTION 4: Reporting Information for the State Patrol Retirement Fund**

**EXHIBIT V**

**Determination of Contribution Sufficiency**

	July 1, 2006	
	Percent of Payroll	Dollar Amount
<b>A. Statutory Contributions – Chapter 352B</b>		
1. Member Contributions	8.40%	\$4,852,298
2. Employer Contributions	<u>12.60%</u>	<u>7,278,447</u>
3. Total	<u>21.00%</u>	<u>\$12,130,745</u>
<b>B. Required Contributions – Chapter 356</b>		
1. Normal Cost		
(a) Retirement Benefits	20.46%	\$11,819,740
(b) Disability Benefits	2.34%	1,352,260
(c) Survivors	0.99%	571,241
(d) Deferred Retirement Benefits	0.50%	286,634
(e) Refunds	<u>0.12%</u>	<u>68,591</u>
(f) Total	24.41%	\$14,098,467
2. Amortization of Supplemental Contribution UAAL	-2.83%	-1,634,762
3. Amortization of Supplemental Contribution UAAL increase due to assumption changes	4.93	2,847,837
4. Allowance for Expenses	<u>0.18%</u>	<u>103,978</u>
5. Total	<u>26.69%</u>	<u>\$15,415,520</u>
<b>C. Contribution Sufficiency (Deficiency) (A.3 – B.5)</b>	-5.69%	-\$3,284,775
<b>D. Projected annual payroll for fiscal year beginning on the valuation date</b>		\$57,765,450

## SECTION 4: Reporting Information for the State Patrol Retirement Fund

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### EXHIBIT VI

#### Supplementary Information Required by the GASB

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<b>Valuation date</b>	July 1, 2006
<b>Actuarial cost method</b>	Entry Age Normal
<b>Amortization method</b>	Level percentage of payroll
<b>Remaining amortization period</b>	30 years remaining as of July 1, 2006 for current assumptions. 30 years remaining as of July 1, 2006 for increase due to change in plan and assumptions.
<b>Asset valuation method</b>	Market Value, adjusted for amortization obligations receivable at the end of each fiscal year, less a percentage of the Unrecognized Asset Return determined at the close of each of the four preceding fiscal years. Unrecognized Asset Return is the difference between actual net return on Market Value of Assets and the asset return expected during that fiscal year (based on the assumed interest rate employed in the July 1 Actuarial Valuation of the fiscal year).

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#### Actuarial assumptions:

Investment rate of return:	
Pre-retirement	8.50% per annum
Post-retirement	6.00% per annum
Projected payroll increases	6.00% per annum

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#### Plan membership:

Pensioners and beneficiaries receiving benefits	846
Terminated participants entitled to, but not yet receiving benefits	33
Other non-vested terminated participants due a refund of contributions	8
Active participants	<u>851</u>
Total	1,738

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**SECTION 4: Reporting Information for the State Patrol Retirement Fund**

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**EXHIBIT VII**

**Actuarial Assumptions and Actuarial Cost Method**

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**Net Investment Return:**

*Pre-Retirement:* 8.50% per annum.

*Post-Retirement:* 8.50% per annum.

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**Benefit Increases After Retirement:** Payment of earnings on retired reserves in excess of 6.00% accounted for by using a 6.00% post-retirement assumptions.

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**Salary Increases:** Reported salary for at valuation date increased according to the rate table on pages 18 and 19 to current fiscal year and annually for each future year. Prior fiscal year salary is annualized for new members.

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**Mortality Rates:**

*Healthy Pre-Retirement:* Male: 1983 Group Annuity Mortality Table for males set back five years.  
Female: 1983 Group Annuity Mortality Table for females set back two years.

*Healthy Post-Retirement:* Male: 1983 Group Annuity Mortality Table for males set back two years.  
Female: 1983 Group Annuity Mortality Table for females set back one year.

*Disabled:* Male: Combined Annuity Mortality.  
Female: Combined Annuity Mortality.

**SECTION 4: Reporting Information for the State Patrol Retirement Fund**

<b>Retirement Rates:</b>	Age-related table as follows:															
	<table> <tr> <td>Ages:</td> <td>50-54</td> <td>7.00%</td> </tr> <tr> <td></td> <td>55</td> <td>60.00</td> </tr> <tr> <td></td> <td>56</td> <td>40.00</td> </tr> <tr> <td></td> <td>57-59</td> <td>20.00</td> </tr> <tr> <td></td> <td>60 &amp; over</td> <td>100.00</td> </tr> </table>	Ages:	50-54	7.00%		55	60.00		56	40.00		57-59	20.00		60 & over	100.00
Ages:	50-54	7.00%														
	55	60.00														
	56	40.00														
	57-59	20.00														
	60 & over	100.00														
<b>Withdrawal Rates:</b>	Graded rates starting at 0.0147 at age 20 and decreasing to 0.002 at age 49 with rates equal to 0.025 for the first three years of employment.															
<b>Disability Rates:</b>	Rates adopted by MSRS as shown in rate table.															
<b>Allowance for Combined Service Annuity:</b>	Liabilities for active members are increased by 0.00% and liabilities for former members are increased by 30.00% to account for the effect of some participants having eligibility for a Combined Service Annuity.															
<b>Administrative Expenses:</b>	Prior year expenses expressed as percentage of prior year payroll.															
<b>Return of Contributions:</b>	All employees withdrawing after becoming eligible for a deferred benefit take the larger of their contributions accumulated with interest or the value of their deferred benefit.															
<b>Percent Married:</b>	100.00% of members are assumed to be married.															
<b>Age of Spouse:</b>	Females are assumed to be three years younger than males.															
<b>Eligible Children:</b>	Each member is assumed to have two children whose ages are dependent upon the member's age. Assumed first child is born at member's age 28 and second child is born at member's age 31.															
<b>Social Security:</b>	N/A															

**SECTION 4: Reporting Information for the State Patrol Retirement Fund**

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<b>Special Consideration:</b>	Married members assumed to elect subsidized joint and survivor form of annuity as follows:  Males -                    25.00% elect 50% J&S option 25.00% elect 100% J&S option  Females -                  5.00% elect 50% J&S option 5.00% elect 100% J&S option
<b>Actuarial Cost Method:</b>	Entry Age Normal Actuarial Cost Method. Entry Age is the age at the time the participant commenced employment. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are expressed as a level percentage of payroll with Normal Cost determined as if the current benefit accrual rate had always been in effect.  The actuarial cost method was changed as of July 1, 1997 to permit negative amortization of supplemental contribution surpluses.
<b>Asset Valuation Method:</b>	Market Value less a percentage of the Unrecognized Asset Return determined at the close of each of the four preceding fiscal years. Unrecognized Asset Return is the difference between actual net return on Market Value of Assets and the asset return expected during the fiscal year (based on the assumed interest rate employed in the July 1 Actuarial Valuation of the fiscal year). Transition rules apply between July 1, 2000 and July 1, 2003, when the method is fully in effect.
<b>Payment on the Unfunded Actuarial Accrued Liability:</b>	A level percentage of payroll each year to the statutory amortization date assuming payroll increases of 5.00% per annum. If there is a negative Unfunded Actuarial Accrued Liability, the surplus amount shall be amortized over 30 years as a level percentage of payroll.

**SECTION 4: Reporting Information for the State Patrol Retirement Fund**

**Summary of Rates:**

Shown below for selected ages:

**Rates (%)**

Age	Healthy Pre-Retirement Mortality		Healthy Post-Retirement Mortality		Disabled Mortality		Withdrawal	
	Male	Female	Male	Female	Male	Female	Male	Female
20	0.03%	0.02%	0.04%	0.02%	0.21%	0.21%	1.47%	1.47%
25	0.04	0.02	0.04	0.02	0.22	0.22	1.13	1.13
30	0.05	0.03	0.05	0.03	0.24	0.24	0.80	0.80
35	0.06	0.04	0.07	0.04	0.34	0.34	0.47	0.47
40	0.09	0.06	0.10	0.06	0.50	0.50	0.40	0.40
45	0.12	0.08	0.17	0.09	0.75	0.75	0.40	0.40
50	0.22	0.14	0.31	0.15	1.12	1.12	0.00	0.00
55	0.39	0.21	0.52	0.23	1.67	1.67	0.00	0.00
60	0.61	0.34	0.77	0.38	2.49	2.49	0.00	0.00
65	0.92	0.58	1.24	0.64	3.71	3.71	0.00	0.00
70	1.56	0.97	2.22	1.09	5.50	5.50	0.00	0.00

**SECTION 4: Reporting Information for the State Patrol Retirement Fund**

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**Summary of Rates: (continued)**                      Shown below for selected ages:

**Rates (%)**

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<b>Age</b>	<b><u>Disability</u></b>		<b><u>Retirement</u></b>		<b><u>Salary</u></b> <b><u>Increases</u></b>
	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>	
20	0.04%	0.04%	0.00%	0.00%	7.75%
25	0.06	0.06	0.00	0.00	7.00
30	0.08	0.08	0.00	0.00	7.00
35	0.11	0.11	0.00	0.00	7.00
40	0.18	0.18	0.00	0.00	6.50
45	0.29	0.29	0.00	0.00	5.75
50	0.50	0.50	7.00	7.00	5.50
55	0.88	0.88	60.00	60.00	5.25
60	1.41	1.41	100.00	100.00	5.25
65	0.00	0.00	100.00	100.00	5.25
70	0.00	0.00	100.00	100.00	5.25

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## SECTION 4: Reporting Information for the State Patrol Retirement Fund

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➤ **Changes in Actuarial Assumptions  
and Actuarial Cost Methods:**

The following were updated to reflect the recommendations of the most recent experience study:

Mortality for pre-retirement and post-retirement,  
Withdrawal rates (including the added select period), and  
Retirement rates.

**SECTION 4: Reporting Information for the State Patrol Retirement Fund**

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**EXHIBIT VIII**

**Summary of Plan Provisions**

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This summary of provisions reflects the interpretation of applicable Statutes for purposes of preparing this valuation. This interpretation is not intended to create or rescind any benefit rights in conflict with any Minnesota Statutes.

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**Plan Year:** July 1 through June 30.

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**Eligibility:** State trooper, conservation officers and certain crime bureau officers.

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**Contributions:**

<u>Effective Date</u>	<u>Employee Rate</u>	<u>Employer Rate</u>
Current	8.40%	12.60%
July 1, 2007	9.10	13.60
July 1, 2008	9.80	14.60
July 1, 2009	10.40	15.60

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**Allowable Service:** Service during which member contributions were deducted. Includes period receiving temporary Workers' Compensation.

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**Salary:** Salaries excluding lump sum payments at separation.

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**Average Salary:** Average of the five highest successive years of salary. Average Salary is based on all Allowable Service if less than five years.

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**Retirement:**

*Normal Retirement Benefit:*

*Age/Service Requirement:* Age 55 and three years of Allowable Service.

*Amount:* 3.00% of Average Salary for each year of Allowable Service.

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## SECTION 4: Reporting Information for the State Patrol Retirement Fund

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*Early Retirement Benefit:*

*Age/Service Requirement:*

Age 50 and three years of Allowable Service.

*Amount:*

Normal Retirement Benefit based on Allowable Service and Average Salary at retirement reduced by 1/10% for each month that the member is under age 55.

*Form of Payment:*

Life annuity.

Actuarially equivalent options are:

50% or 100% joint and survivor with bounce back feature without additional reduction.

*Benefit Increases:*

Benefits may be increased each January 1 depending on the investment performance of the Minnesota Post Retirement Investment Fund (MPRIF). A benefit recipient who has been receiving a benefit for at least 12 full months as of June 30 will receive a full increase. Benefit recipients receiving benefits for at least one full month but less than 12 full months will receive a partial increase.

For members retired under laws in effect before June 1, 1973 receive an additional 6.00% supplement through July 1, 1994. For each of those years, the supplement increases by 6.00% of the total annuity, which includes both MPRIF and supplemental amounts. Thereafter, regular MPRIF increases apply.

Members retired under laws in effect before June 1, 1973 receive an additional lump sum payment each year. In 1989, this lump sum payment is \$25 times each full year of Allowable Service or \$400 per full year of service less any Social Security benefits received or annuity from a Minnesota public employee pension plan. In each following year, the lump sum payment will increase by the same percentage increase that is applied to regular annuities paid from MPRIF. Effective January 1, 2002, annual lump sum payment is divided by 12 and paid as a monthly life annuity in the annuity form elected.

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### **Disability:**

*Occupational Disability Benefit:*

*Age/Service Requirement:*

Member who cannot perform his duties because of a disability directly resulting from an act of duty.

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*Amount:* 60.00% of Average Salary plus 3.00% of Average Salary for each year in excess of 20 years of Allowable Service (pro rata for completed months).

Payments cease at age 65 or earlier if disability ceases or death occurs. Benefits may be paid upon re-employment but salary plus benefit cannot exceed current salary of position held at time of disability.

If a member became disabled prior to July 1, 1997 but was not eligible to commence their benefit before July 1, 1997, an actuarial increase shall be made for the change in the post-retirement interest rates from 5.00% to 6.00%.

*Non-Duty Disability Benefit:*

*Age/Service Requirement:*

At least one year of Allowable Service and disability not related to covered employment.

*Amount:*

Normal Retirement Benefit based on Allowable Service (minimum of 15 years) and Average Salary at disability without reduction for commencement before age 55.

Payments cease at age 65 or earlier if disability ceases or death occurs. Benefits may be paid upon re-employment but salary plus benefit cannot exceed current salary of position held at time of disability.

If a member became disabled prior to July 1, 1997 but was not eligible to commence their benefit before July 1, 1997, an actuarial increase shall be made for the change in the post-retirement interest rates from 5.00% to 6.00%.

*Form of Payment:*

Same as for retirement.

*Benefit Increases:*

Adjusted by MSRS to provide same increase as MPRIF.

*Retirement After Disability:*

*Age/Service Requirement:*

Age 65 with continued disability.

*Amount:*

Optional annuity continues. Otherwise, a normal retirement annuity equal to the disability benefit paid, or an actuarially equivalent option.

*Form of Payment:*

Same as for retirement.

*Benefit Increases:*

Same as for retirement.

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### Death:

Surviving Spouse Benefit:

*Age/Service Requirement:*

Member who is active or receiving a disability benefit.

*Amount:*

50.00% of Annual Salary if member was active or occupational disability and either had less than three years of Allowable Service or was under age 55. Payment for life.

Surviving spouse receives the 100% joint and survivor benefit commencing on the member's 55<sup>th</sup> birthday if member was active or a disability with three years of Allowable Service. A spouse who had been receiving the 50.00% benefit shall be entitled to the larger of the two. Payment for life.

If a member became deceased prior to July 1, 1997 and the beneficiary was not eligible to commence their survivor benefit before July 1, 1997, an actuarial increase shall be made for the change in the post-retirement interest rates from 5.00% to 6.00%.

*Benefit Increases:*

Adjusted MSRS to provide same increase as MPRIF.

Surviving Dependent Children's Benefit:

*Age/Service Requirement:*

Member who is active or receiving a disability benefit. Child must be unmarried, under age 18 (or 23 if full-time student) and dependent upon the member.

*Amount:*

10.00% of Average Salary for each child and \$20 per month prorated among all dependent children. Benefit must not be less than 50.00% nor exceed 70.00% of Average Salary.

If a member became deceased prior to July 1, 1997 and the beneficiary was not eligible to commence their survivor benefit before July 1, 1997, an actuarial increase shall be made for the change in the post-retirement interest rates from 5.00% to 6.00%.

Refund of Contributions:

*Age/Service Requirement:*

Member dies before receiving any retirement benefits and survivor benefits are not payable.

*Amount:*

Member's contributions with 5.00% interest if death occurred before May 16, 1989, and 6.00% interest if death occurred on or after May 16, 1989.

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**Termination:**

Refund of Contributions:

*Age/Service Requirement:*

Termination of state service.

*Amount:*

Member's contributions with 5.00% interest compounded annually if termination occurred before May 16, 1989 and 6.00% interest if termination occurred on or after May 16, 1989.

Deferred Benefit:

*Age/Service Requirement:*

Three years of Allowable Service.

*Amount:*

Benefit computed under law in effect at termination and increased by the following annual percentage:

- (1) 0.00% before July 1, 1971;
- (2) 5.00% from July 1, 1971 to January 1, 1981; and
- (3) 3.00% thereafter until the annuity begins. Amount is payable as a normal or early retirement.

If a member terminated employment prior to July 1, 1997 but was not eligible to commence their pension before July 1, 1997, an actuarial increase shall be made for the change in the post-retirement interest rates from 5.00% to 6.00%.

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**Changes in Plan Provisions:**

In accordance with the passage of the contribution rate increase bill, projected employee contribution increases are valued in projected refunds. Future statutory contribution rates are as follows:

<u>Effective Date</u>	<u>Employee Rate</u>	<u>Employer Rate</u>
Current	8.40%	12.60%
July 1, 2007	9.10	13.60
July 1, 2008	9.80	14.60
July 1, 2009	10.40	15.60

Funding for all plan and assumptions changes is over 30 years.