# St. Paul Teachers' Retirement Fund Association

Actuarial Valuation and Review as of July 1, 2005

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January 6, 2006

Mr. Phillip Kapler St. Paul Teachers' Retirement Fund Association 1619 Dayton Avenue, Room 309 Saint Paul, MN 55104-6206

Dear Mr. Kapler:

We are pleased to submit this Actuarial Valuation and Review as of July 1, 2005. It summarizes the actuarial data used in the valuation, establishes the funding requirements for fiscal 2006 and analyzes the preceding year's experience.

The census information on which our calculations were based was prepared by the Fund and the financial information was provided by the Fund. 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:

Leslie L. Thompson, FSA, MAAA, EA Senior Vice President and Consulting Actuary Susan M. Hogarth, EA, MAAA Consulting Actuary

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

# **SECTION 1**

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#### **REPORTING INFORMATION**

#### Purpose

This report has been prepared by The Segal Company to present a valuation of the St. Paul Teachers' Retirement Fund Association as of July 1, 2005. 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:

- > Section 356.215 of the Minnesota Statutes;
- > The benefit provisions of the Retirement Fund, as prescribed in the bylaws governing statutes and policies of the Fund;
- > The characteristics of covered active members, inactive vested members, pensioners and beneficiaries as of July 1, 2005, provided by the Fund;
- > The assets of the Fund as of June 30, 2005, provided by the Fund;
- > Economic assumptions regarding future salary increases and investment earnings; and
- > Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

#### **Significant Issues in Valuation Year**

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

- The actuarial accrued liability funded ratio based on the actuarial value of assets over the actuarial accrued liability as of July 1, 2005 is 69.65% compared to 71.82% as of July 1, 2004. This ratio is a measure of funding status, its history is a measure of funding progress, and is the ratio required to be reported under GASB 25.
- As indicated on page 4 of this report, the total unrecognized investment gain as of June 30, 2005 is \$29,374,850. 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 plan experienced an investment gain for the year ended June 30, 2005, resulting in a positive asset return. This is an improvement to the plan from the negative asset return as of June 30, 2004, with prior year losses becoming fully recognized.
- > The statutory contribution rate under Chapter 354A is equal to 16.49% of payroll compared to the required contribution rate under Chapter 356 of 23.78% of payroll. Therefore, the contribution deficiency is 7.29% of payroll as of July 1, 2005.
- > The amortization date for the Fund is June 30, 2021, due to the 2002 legislative assumption changes which added one year to the original amortization date of June 30, 2020, set by Section 356.215 of the Minnesota Statutes.
- From the data provided, more actives have terminated between July 1, 2004 and June 30, 2005 than in the prior valuation, and there were less new actives as of July 1, 2005 than as of July 1, 2004. These are significant issues that relate to the decrease in the active population.
- > There were no changes in plan provisions, actuarial assumptions or actuarial cost methods since the prior valuation.

Summary of Key Valuation Results		
	2005	2004
Contributions (% of payroll) for plan year beginning July 1:		
Statutory – Chapter 354A	16.49%	16.62%
Required – Chapter 356	23.78%	21.59%
Sufficiency/(Deficiency)	-7.29%	-4.97%
Funding elements for plan year beginning July 1:		
Normal cost	\$21,035,503	\$21,479,177
Market value of assets	934,667,364	871,902,590
Actuarial value of assets (AVA)	905,292,514	898,859,732
Actuarial accrued liability (AAL)	1,299,831,584	1,251,460,084
Unfunded/(Overfunded) actuarial accrued liability	394,539,070	352,600,352
Funded ratios:		
Accrued Benefit Funded Ratio	72.49%	74.90%
Current assets (AVA)	\$905,292,514	\$898,859,732
Current benefit obligations	1,248,867,191	1,200,070,893
Projected Benefit Funded Ratio	85.68%	88.95%
Current and expected future assets	\$1,296,405,105	\$1,304,887,865
Current and expected future benefit obligations (Present Value of Benefits)	1,513,025,533	1,467,063,988
GASB 25/27 for plan year beginning July 1:		
Annual required employer contributions	\$34,723,512	\$30,827,547
Accrued Liability Funded Ratio (AVA/AAL)	69.65%	71.82%
Covered actual payroll	\$223,762,071	\$221,685,475
Demographic data for plan year beginning July 1:		
Number of pensioners and beneficiaries	2,505	2,361
Number of vested terminated members	1,368	1,261
Number of other non-vested terminated members	1,687	1,664
Number of active members	4,206	4,435
Number of members on leave of absence*	143	133
Total projected payroll**	\$227,818,794	\$230,777,730
Average annual payroll (projected dollars)**	52,384	50,521

\* Members on leave of absence treated are active members.

\*\* Calculated as covered actual payroll, projected one year with salary scale. Also, includes members on leave of absence.

#### A. MEMBER DATA

The Actuarial Valuation and Review considers the number and demographic characteristics of covered members, including active members, vested terminated members, pensioners and beneficiaries. This section presents a summary of significant statistical data on these member groups.

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

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

#### CHART 1

Member Population: 2002 – 2005

Year Ended Active June 30 Members*				Ratio of Non-Actives to Actives
2002	4,306	815	2,136	0.69
2003	4,331	858	2,248	0.72
2004	4,568	1,261	2,361	0.79
2005	4,349	1,368	2,505	0.89

For years after 2003, includes members on leave of absence.

\*\* Excludes terminated members due a refund of employee contributions

#### **Active Members**

Plan costs are affected by the age, years of service and payroll of active members. In this year's valuation, there were 4,349 active members (including 143 members on leave of absence) with an average age of 44.1, average years of service of 10.9 years and average payroll of \$52,384. The 4,568 active members (including 133 members on leave of absence) in the prior valuation had an average age of 43.8, average service of 10.5 years and average payroll of \$50,521.

#### **Inactive Members**

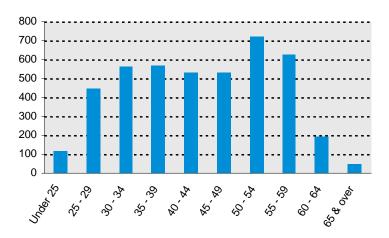
In this year's valuation, there were 1,368 members with a vested right to a deferred or immediate vested benefit.

In addition, there were 1,687 other non-vested terminated members entitled to a return of their employee contributions.

# These graphs show a distribution of active members by age and by years of service.

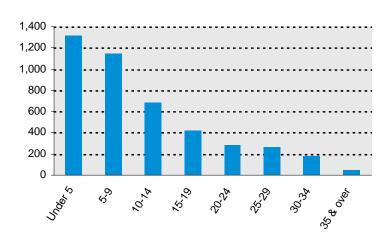
#### CHART 2

Distribution of Active Members by Age as of June 30, 2005



#### CHART 3

Distribution of Active Members by Years of Service as of June 30, 2005



#### **Pensioners and Beneficiaries**

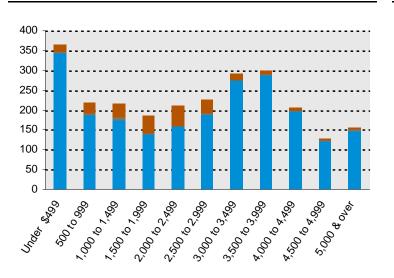
As of June 30, 2005, 2,246 pensioners (including 32 disabled participants) and 259 beneficiaries were receiving total monthly benefits of \$6,426,473. For comparison, in the previous valuation, there were 2,112 pensioners (including 28 disabled participants) and 249 beneficiaries receiving monthly benefits of \$5,927,295.

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



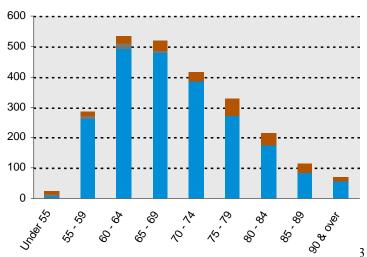
# CHART 4

Distribution of Pensioners and Beneficiaries by Type and by Monthly Amount as of June 30, 2005



#### CHART 5

Distribution of Pensioners and Beneficiaries by Type and by Age as of June 30, 2005



#### **B.** FINANCIAL INFORMATION

It is desirable to have level and predictable plan costs from one year to the next. For this reason, the 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. The 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, 2005

1.	Market value of assets available for benefits			\$934,667,364
		Original Amount	% Not Recognized	
2.	Calculation of unrecognized return			
	(a) Year ended June 30, 2005	\$26,860,009	80%	\$21,488,007
	(b) Year ended June 30, 2004	82,512,072	60%	\$49,507,243
	(c) Year ended June 30, 2003	-56,015,000	40%	-22,406,000
	(d) Year ended June 30, 2002	-96,072,000	20%	<u>-19,214,400</u>
	(e) Total unrecognized return			\$29,374,850
3.	Actuarial value of assets: (1) - (2e) ("Current Assets")			<u>\$905,292,514</u>

#### 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, 2005, the total loss is \$27,066,777, which includes a loss of \$31,763,341 from investments and a gain of \$4,696,564 from all other sources. The net experience variation from individual sources other than investments was 0.4% of the actuarial accrued liability, which is less than 1.0% of the actuarial accrued liability and includes age/service retirements, disability mortality (pre and post-retirement), withdrawal, and salary increases.

#### CHART 7

This chart provides a summary of the actuarial experience during the past year. Actuarial Experience for Year Ended June 30, 2005

1.	Net gain/(loss) from investments	-\$31,763,341
2.	Net gain/(loss) from other experience	4,696,564
3.	Net experience gain/(loss): $(1) + (2)$	-\$27,066,777

#### 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.

#### EXHIBIT A

#### Table of Plan Coverage

	Year End		
Category	2005	2004	– Change From Prior Year
Active members in valuation*:			
Number	4,349	4,568	-4.8%
Average age	44.1	43.8	N/A
Average service	10.9	10.5	N/A
Total projected payroll	\$227,818,794	\$230,777,730	-1.3%
Average projected payroll	52,384	50,521	3.7%
Total active vested members	3,439	3,506	-1.9%
Vested terminated members	1,368	1,261	8.5%
Retired participants:			
Number in pay status	2,214	2,084	6.2%
Average age	70.3	70.5	N/A
Average monthly benefit	\$2,620	\$2,558	2.4%
Disabled members:			
Number in pay status	32	28	14.3%
Average age	59.4	58.1	N/A
Average monthly benefit	\$2,723	\$2,797	-2.6%
Other non-vested terminated members	1,687	1,664	1.4%
Beneficiaries:			
Number in pay status	259	249	4.0%
Average age	74.8	74.7	N/A
Average monthly benefit	\$2,082	\$2,081	0.0%

\* For 2004, includes 133 members on leave of absence, and for 2005, includes 143 members on leave of absence.

#### **EXHIBIT B-1**

Members in Active Service as of June 30, 2005 By Age, Years of Service, and Average Projected Payroll - Total

	Years of Service										
Age	Total	Under 5	5-9	10-14	15-19	20-24	25-29	30-34	35 & ove		
Under 25	116	116									
	\$17,864	\$17,864									
25 - 29	449	368	81								
	34,025	31,551	\$45,265								
30 - 34	561	207	320	34							
	44,579	36,061	48,544	\$59,121							
35 - 39	568	151	242	162	13						
	50,684	38,353	51,004	60,081	\$70,854						
40 - 44	530	118	145	145	105	17					
	56,202	36,363	55,318	60,107	70,116	\$82,190					
45 - 49	533	118	116	119	85	70	25				
	55,787	30,950	53,242	62,460	65,851	71,137	\$75,859				
50 - 54	723	108	133	120	118	93	112	39			
	60,261	30,068	51,969	63,317	65,377	69,752	74,956	\$82,443			
55 - 59	626	79	76	87	72	69	93	121	29		
	63,568	21,939	55,345	63,762	63,899	71,826	75,481	77,983	\$79,117		
60 - 64	197	36	22	19	28	27	32	14	19		
	59,739	21,222	44,606	65,290	68,908	65,686	74,075	76,786	86,020		
65 & over	46	17	8	2	4	6	1	5	3		
	43,905	12,480	29,906	64,301	59,896	68,800	73,049	85,722	95,199		
Total	4,349	1,318	1,143	688	425	282	263	179	51		
	\$52,384	\$30,985	\$50,813	\$61,637	\$66,741	\$70,944	\$75,113	\$79,077	\$82,635		

#### **EXHIBIT B-2**

Members in Active Service as of June 30, 2005 By Age, Years of Service, and Average Projected Payroll - Basic

	Years of Service											
Age	Total	Under 5	5-9	10-14	15-19	20-24	25-29	30-34	35 & over			
Under 25												
25 - 29												
30 - 34												
35 - 39												
40 - 44												
45 - 49	1						1					
	\$74,367						\$74,367					
50 - 54	76				2	10	40	24				
	75,448				\$54,544	\$69,916	73,327	\$83,030				
55 - 59	162				1	4	35	95	27			
	77,310				28,431	69,015	78,783	76,926	\$79,794			
60 - 64	30						6	9	15			
	78,877						73,603	74,094	83,856			
65 & over	5							2	3			
	94,729							94,025	95,199			
Total	274				3	14	82	130	45			
	\$77,272				\$45,840	\$69,659	\$75,689	\$78,120	\$82,175			

#### **EXHIBIT B-3**

Members in Active Service as of June 30, 2005 By Age, Years of Service, and Average Projected Payroll - Coordinated

	Years of Service											
Age	Total	Under 5	5-9	10-14	15-19	20-24	25-29	30-34	35 & over			
Under 25	116	116										
	\$17,864	\$17,864										
25 - 29	449	368	81									
	34,025	31,551	\$45,265									
30 - 34	561	207	320	34								
	44,579	36,061	48,544	\$59,121								
35 – 39	568	151	242	162	13							
	50,684	38,353	51,004	60,081	\$70,854							
40 - 44	530	118	145	145	105	17						
	56,202	36,363	55,318	60,107	70,116	\$82,190						
45 - 49	532	118	116	119	85	70	24					
	55,752	30,950	53,242	62,460	65,851	71,137	\$75,921					
50 - 54	647	108	133	120	116	83	72	15				
	58,478	30,068	51,969	63,317	65,564	69,732	75,862	\$81,504				
55 – 59	464	79	76	87	71	65	58	26	2			
	58,770	21,939	55,345	63,762	64,399	71,999	73,489	81,845	\$69,978			
60 - 64	167	36	22	19	28	27	26	5	4			
	56,301	21,222	44,606	65,290	68,908	65,686	74,184	81,630	94,135			
65 & over	41	17	8	2	4	6	1	3				
	37,707	12,480	29,906	64,301	59,896	68,800	73,049	80,186				
Total	4,075	1,318	1,143	688	422	268	181	49	6			
	\$50,711	\$30,985	\$50,813	\$61,637	\$66,890	\$71,011	\$74,853	\$81,617	\$86,083			

#### **EXHIBIT C-1**

#### Retired Participants as of June 30, 2005 By Age, Years Retired and Average Annual Benefit - Total

	Years Retired										
Age	Total	Under 5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & ove	
Under 45											
45 - 49											
50 - 54											
55 - 59	243	238	5								
	\$34,299	\$34,684	\$15,971								
60 - 64	468	289	177	2							
	28,275	29,182	26,957	\$13,797							
65 - 69	494	134	264	92	4						
	31,870	27,426	33,480	34,087	\$23,527						
70 - 74	391	19	114	195	60	2	1				
	34,868	14,754	36,945	36,822	29,828	\$59,674	\$52,040				
75 - 79	272	2	13	78	124	54		1			
	33,995	21,137	29,376	45,725	30,695	25,784		\$57,477			
80 - 84	189	2	2	14	70	86	15				
	29,928	24,071	33,489	41,007	30,298	28,600	25,786				
85 - 89	92	1		1	12	41	36	1			
	26,251	50,906		67,720	25,925	25,896	25,151	18,165			
90 & Over	65					2	39	19	4	1	
	20,258					24,747	18,261	24,423	\$19,114	\$14,609	
Total	2,214	685	575	382	270	185	91	21	4	1	
	\$31,427	\$30,343	\$31,914	\$38,095	\$30,081	\$27,473	\$22,598	\$25,699	\$19,114	\$14,609	

#### **EXHIBIT C-2**

#### Retired Participants as of June 30, 2005 By Age, Years Retired and Average Annual Benefit - Basic

		Years Retired										
Age	Total	Under 5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & ove		
Under 45												
45 - 49												
50 - 54												
55 - 59	190	186	4									
	\$38,436	\$38,838	\$19,711									
60 - 64	337	187	148	2								
	33,614	36,752	29,916	\$13,797								
65 - 69	347	56	207	80	4							
	39,635	44,931	39,401	37,337	\$23,527							
70 - 74	317	3	76	175	60	2	1					
	40,145	39,093	48,966	39,579	29,828	\$59,674	\$52,040					
75 - 79	244		8	65	116	54		1				
	36,628		43,196	51,879	32,496	25,784		\$57,477				
80 - 84	178			14	64	85	15					
	30,759			41,007	32,284	28,800	25,786					
85 - 89	88	1		1	10	40	35	1				
	27,075	50,906		67,720	30,507	25,968	25,773	18,165				
90 & Over	65					2	39	19	4	1		
	20,258					24,747	18,261	24,423	\$19,114	\$14,609		
Total	1,766	433	443	337	254	183	90	21	4	1		
	\$35,799	\$38,755	\$37,764	\$41,409	\$31,593	\$27,584	\$22,812	\$25,699	\$19,114	\$14,609		

#### **EXHIBIT C-3**

### Retired Participants as of June 30, 2005 By Age, Years Retired and Average Annual Benefit - Coordinated

					Years	Retired				
Age	Total	Under 5	5-9	10-14	15-19	20-24	25-29	30-34	35 -39	40 & over
Under 45										
45 - 49										
50 - 54										
55 - 59	53	52	1							
	\$19,469	\$19,824	\$1,011							
60 - 64	131	102	29							
	14,542	15,305	11,856							
65 - 69	147	78	57	12						
	13,542	14,858	11,976	\$12,420						
70 - 74	74	16	38	20						
	12,262	10,191	12,904	12,699						
75 - 79	28	2	5	13	8					
	11,058	21,137	7,264	14,951	\$4,583					
80 - 84	11	2	2		6	1				
	16,482	24,071	33,489		9,108	\$11,528				
85 - 89	4				2	1	1			
	8,105				3,012	22,990	\$3,407			
90 & Over										
Total	448	252	132	45	16	2	1			
10111	\$14,193	\$15,890	\$12,281	\$13,275	\$6,084	\$17,259	\$3,407			

#### EXHIBIT D-1

#### Disabled Members as of June 30, 2005 By Age, Years Disabled and Average Annual Benefit – Total

					Years D	isabled				
Age	Total	Under 5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 45										
45 - 49										
50 - 54	6	3	2	1						
	\$16,516	\$17,638	\$20,632	\$4,917						
55 - 59	6	4	1	1						
	42,859	38,366	54,221	49,470						
60 - 64	16	3	8	4			1			
	28,066	16,814	41,326	12,574			\$17,715			
65 - 69	4	1	1	1	1					
	60,090	63,292	51,903	66,480	\$58,685					
70 - 74										
75 - 79										
80 - 84										
85 - 89										
90 & Over										
Total	32	11	12	7	1		1			
	\$32,677	\$29,101	\$39,833	\$24,452	\$58,685		\$17,715			

#### EXHIBIT D-2

#### Disabled Members as of June 30, 2005 By Age, Years Disabled and Average Annual Benefit – Basic

					Years D	isabled											
Age	Total	Under 5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over							
Under 45																	
45 - 49																	
50 - 54	1		1														
	\$38,874		\$38,874														
55 - 59	5	3	1	1													
	50,561	\$49,704	54,221	\$49,470													
60 - 64	9		7	1			1										
	37,805		44,844	8,617			\$17,715										
65 - 69	4	1	1	1	1												
	60,090	63,292	51,903	66,480	\$58,685												
70 - 74																	
75 - 79																	
80 - 84																	
85 - 89																	
90 & Over																	
Total	19	4	10	3	1		1										
	\$45,910	\$53,101	\$45,891	\$41,522	\$58,685		\$17,715										

#### **EXHIBIT D-3**

#### Disabled Members as of June 30, 2005 By Age, Years Disabled and Average Annual Benefit - Coordinated

		Years Disabled										
Age	Total	Under 5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over		
Under 45												
45 - 49												
50 - 54	5	3	1	1								
	\$12,044	\$17,638	\$2,389	\$4,917								
55 - 59	1	1										
	4,350	4,350										
60 - 64	7	3	1	3								
	15,545	16,814	16,697	13,893								
65 - 69												
70 - 74												
75 - 79												
80 - 84												
85 - 89												
90 & Over												
Total	13	7	2	4								
	\$13,337	\$15,387	\$9,543	\$11,649								

#### **EXHIBIT E-1**

Beneficiaries as of June 30, 2005 By Age, Years Since Death and Average Annual Benefit - Total

				Ye	ars Since De	ath	1										
Age	Total	Under 5	5-9	10-14	15-19	20-24	25-29	30-34	35 & ove								
Under 50	6	5		1													
	\$9,073	\$10,374		\$2,574													
50 - 54	6	4	1						1								
	10,917	12,543	\$11,980						\$3,350								
55 – 59	14	4	3	3	3	1											
	21,364	13,393	28,562	29,309	\$18,048	\$17,773											
60 - 64	22	6	5	6	4	1											
	27,362	34,387	32,706	23,110	18,054	21,241											
65 – 69	34	2	9	12	7	1	3										
	31,072	30,465	36,434	35,637	24,909	10,612	\$18,332										
70 - 74	31	1	2	8	12	7	1										
	32,097	40,553	32,876	42,602	29,368	24,447	24,331										
75 – 79	55			3	18	25	7	2									
	24,579			14,048	23,023	28,289	16,331	\$36,863									
80 - 84	45		1	3	8	16	14	3									
	24,383		52,521	31,549	35,402	20,109	21,167	16,254									
85 - 90	31				3	9	13	6									
	20,717				24,524	20,830	19,356	21,589									
90 & Over	15					1	6	8									
	20,425					28,392	18,815	20,637									
Total	259	22	21	36	55	61	44	19	1								
	\$24,981	\$21,064	\$33,685	\$33,511	\$25,897	\$24,026	\$19,420	\$21,954	\$3,350								

#### **EXHIBIT E-2**

Beneficiaries as of June 30, 2005 By Age, Years Since Death and Average Annual Benefit – Basic

				Yea	ars Since Death									
Age	Total	Under 5	5-9	10-14	15-19	20-24	25-29	30-34	35 & ovei					
Under 50	2	2												
	\$11,524	\$11,524												
50 - 54	3	2							1					
	8,362	10,869							\$3,350					
55 - 59	11	2	3	2	3	1								
	24,064	15,527	\$28,562	\$38,026	\$18,048	\$17,773								
60 - 64	19	4	4	6	4	1								
	28,356	36,667	39,993	23,110	18,054	21,241								
65 - 69	31		8	12	7	1	3							
	31,314		37,889	35,637	24,909	10,612	\$18,332							
70 - 74	29	1	2	7	11	7	1							
	33,255	40,553	32,876	45,373	31,366	24,447	24,331							
75 - 79	54			2	18	25	7	2						
	25,009			20,392	23,023	28,289	16,331	\$36,863						
80 - 84	44		1	2	8	16	14	3						
	24,665		52,521	41,335	35,402	20,109	21,167	16,254						
85 - 89	31				3	9	13	6						
	20,717				24,524	20,830	19,356	21,589						
90 & Over	15					1	6	8						
	20,425					28,392	18,815	20,637						
Total	239	11	18	31	54	61	44	19	1					
	\$25,820	\$23,914	\$37,058	\$34,949	\$26,240	\$24,026	\$19,420	\$21,954	\$3,350					

#### **EXHIBIT E-3**

Beneficiaries as of June 30, 2005 By Age, Years Since Death and Average Annual Benefit - Coordinated

			Years Since Death										
Age	Total	Under 5	5-9	10-14	15-19	20-24	25-29	30-34	35 & over				
Under 50	4	3		1									
	\$7,849	\$9,607		\$2,574									
50 - 54	3	2	1										
	13,472	14,218	\$11,980										
55 - 59	3	2		1									
	11,464	11,258		11,875									
60 - 64	3	2	1										
	21,072	29,828	3,561										
65 - 69	3	2	1										
	28,574	30,465	24,792										
70 - 74	2			1	1								
	15,299			23,208	\$7,389								
75 - 79	1			1									
	1,360			1,360									
80 - 84	1			1									
	11,977			11,977									
85 - 90													
90 & Over													
Total	20	11	3	5	1								
	\$14,954	\$18,214	\$13,444	\$10,199	\$7,389								

#### EXHIBIT F

**Reconciliation of Member Data** 

	Active Members	Leave of Absence	Vested Terminated Members	Other Non-Vested Terminated Members	Retired Participants	Disableds	Beneficiaries	Other Beneficiaries	Total
A. Number as of June 30, 2004	4,435	133	1,261	1,664	2,078	28	249	6	9,854
B. Additions	481	100	206	333	187	5	20	1	1,333
C. Deletions:									
1. Retirements	-137		-35	-2					-174
2. Disability	-2		-1		-2				-5
3. Died with beneficiary	-1			-2	-27				-30
4. Died without beneficiary	-1	-1	-1		-28	-1	-8	-1	-41
5. Terminated – deferred	-121	-29		-43					-193
6. Terminated – other non-vested	-365	-2	-3						-370
7. Refunds	- 61	-3	-27	-218					-309
8. Rehired as active	77	-55	-32	-45					-55
9. Leave of absence	-99								-99
10. Expired benefits							-2		-2
11. Resigned Non-vested									
12. Write-offs									
D. Data adjustments	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>
E. Total as of June 30, 2005	4,206	143	1,368	1,687	2,208	32	259	6	9,909

#### EXHIBIT G

#### Change in Assets Available for Benefits for Year Ended June 30, 2005

		Market Value	Cost Value
A.	Assets available at beginning of period	\$871,902,590	\$674,865,993
В.	Operating revenues		
	1. Member contributions	\$13,586,719	\$13,586,719
	2. Employer contributions	20,435,230	20,435,230
	3. Supplemental contributions	3,397,761	3,397,761
	4. Investment income	11,635,482	11,635,482
	5. Investment expenses	-3,266,489	-3,266,489
	6. Net realized gain/(loss)	64,589,914	64,589,914
	7. Other	-	-
	8. Net change in unrealized gain/(loss)	26,455,224	
	9. Total operating revenues	\$136,833,841	\$110,378,617
C.	Operating expenses:		
	1. Service retirements	\$65,125,102	\$65,125,102
	2. Disability benefits	1,020,828	1,020,828
	3. Survivor benefits	6,292,271	6,292,271
	4. Refunds	1,072,293	1,072,293
	5. Administrative expenses	558,573	558,573
	6. Total operating expenses	\$74,069,067	\$74,069,067
D.	Change in accounting method	-	-
E.	Assets available at end of period	\$934,667,364	\$711,175,543
F.	Determination of current year gross asset return		
	1. Average balance:		
	(a) Assets available at BOY: (A)		\$871,902,590
	(b) Assets available at EOY: (E)		934,667,364
	(c) Average balance $[(a) + (b) - Net Investment Income] / 2$		853,577,912
	[Net Investment Income: $(B.4) + (B.5) + (B.6) + (B.7) + (B.8)$ ]		
	2. Expected return: 8.50% x (F.1)		\$72,554,122
	3. Actual return: $(B.4) + (B.5) + (B.6) + (B.7) + (B.8)$		99,414,131
	4. Current year gross asset return: $(F.3) - (F.2)$		\$26,860,009

#### EXHIBIT H

#### Accounting Balance Sheet for Year Ended June 30, 2005

	Market Value	Cost Value
Assets		
Cash, equivalents, short-term securities	\$3,222,352	\$3,222,352
Investments:		
Fixed income	\$175,791,428	\$142,018,413
Equity	675,900,771	492,383,305
Real estate	77,946,421	71,165,393
Alternative	3,716,409	4,296,097
Other assets*	1,925,171	1,925,171
Total assets	\$938,502,552	\$715,010,731
Amounts currently payable	\$767,224	\$767,224
Assets available for benefits		
Member reserves	\$126,493,255	\$126,493,255
Employer reserves	808,174,109	584,682,288
Total assets available for benefits	\$934,667,364	\$711,175,543
Fotal amounts currently payable and assets		
available for benefits	<u>\$935,434,588</u>	<u>\$711,942,767</u>
Net assets at Market/Cost value	<u>\$935,434,588</u>	<u>\$711,942,767</u>
* Other Assets:		
Accounts Receivable:		
Employer contribution	\$1,392,196	
Employee contribution	68,766	
Commission recapture	5,827	
MN amortization match	430,761	
RWI management fee	5,058	
Total accounts receivable	\$1,892,492	
Fixed assets	32,679	

#### EXHIBIT I

**Development of the Fund Through June 30, 2005** 

Year Ended June 30	Employer Contributions	Employee Contributions	Supplemental Contributions	Net Investment Return*	Administrative Expenses	Benefit Payments	Actuarial Value of Assets at End of Year
2002							\$899,572,000
2003	\$19,186,000	\$14,222,000	\$4,184,000	\$26,429,000	\$499,000	\$64,334,000	\$898,760,000
2004	20,378,315	14,307,616	3,392,761	31,417,083	515,715	68,880,328	\$898,859,732
2005	20,435,230	13,586,719	3,397,761	43,082,139	558,573	73,510,494	\$905,292,514

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

#### EXHIBIT J

#### Development of Unfunded/(Overfunded) Actuarial Accrued Liability for Year Ended June 30, 2005

1. Unfunded/(Overfunded) actuarial accrued liability at beginning of year		\$352,600,352
2. Normal cost at beginning of year, including expenses		22,037,750
3. Total contributions		37,419,710
4. Interest		
(a) For whole year on $(1) + (2)$	\$31,844,239	
(b) For half year on (3)	<u>1,590,338</u>	
(c) Total interest: (4a) – (4b)		<u>30,253,901</u>
5. Expected unfunded/(overfunded) actuarial accrued liability: $(1) + (2) - (3) + (4(c))$		\$367,472,293
6. Changes due to (gain)/loss from:		
(a) Investments	\$31,763,341	
(b) Demographics*	-4,696,564	
(c) Total changes due to (gain)/loss		\$27,066,777
7. Unfunded/(Overfunded) actuarial accrued liability at end of year		<u>\$394,539,070</u>

\* Includes (gain)/loss due to age/service retirements, disability, mortality (pre and post-retirement), withdrawal and salary increases.

#### EXHIBIT K

#### **Definitions of Pension Terms**

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: Investment return — the rate of investment yield that the Fund will earn over (a) the long-term future; Mortality rates — the death rates of employees and pensioners; life (b) expectancy is based on these rates; <u>Retirement rates</u> — the rate or probability of retirement at a given age; (c) (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** The single sum value of lifetime benefits to existing pensioners. This sum takes For Pensioners: 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.

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.

#### EXHIBIT I

#### **Summary of Actuarial Valuation Results**

The valuation was made with respect to the following data supplied	d to us:
1. Pensioners as of the valuation date (including 259 beneficiaries in pay status	2,505
2. Members inactive during year ended June 30, 2005 with vested rights	1,368
3. Members active during the year ended June 30, 2005	4,349
Fully vested	3,439
Not vested	910
4. Other non-vested terminated members as of June 30, 2005	1,687

\* Includes 143 members on leave of absence.

### EXHIBIT I (continued)

Summary of Actuarial Valuation Results

			Actuarial Present Value of Projected Benefits	Actuarial Present Value of Future Normal Costs	Actuarial Accrued Liability
A.	Dete	ermination of Actuarial Accrued Liability			
	1.	Active members:			
		(a) Retirement benefits	\$624,645,287	\$182,496,450	\$442,148,837
		(b) Disability benefits	12,149,573	5,496,048	6,653,525
		(c) Death benefits	11,942,321	5,035,881	6,906,440
		(d) Withdrawal benefits	22,812,328	20,165,570	2,646,758
		(e) Total	\$671,549,509	\$213,193,949	\$458,355,560
	2.	Vested terminated members	\$34,621,243	-	\$34,621,243
	3.	Other non-vested terminated members	2,274,788	-	2,274,788
	4.	Annuitants	804,579,993		<u>804,579,993</u>
	5.	Total	\$1,513,025,533	\$213,193,949	\$1,299,831,584
B.	Dete	ermination of Unfunded Actuarial Accrued Liability			
	1.	Actuarial Accrued Liability			\$1,299,831,584
	2.	Actuarial Value of Assets			905,292,514
	3.	Unfunded Actuarial Accrued Liability: (B.1) – (B.2)			\$394,539,070
C.	Dete	ermination of Supplemental Contribution Rate			
	1.	Present value of future payrolls through the amortization date of June 30, 2021			\$2,759,104,494
	2.	Supplemental contribution rate: (B.3) / (C.1)			14.3%

# EXHIBIT II

#### Actuarial Balance Sheet

A.	Current Assets			\$905,292,514
B.	Expected Future Assets			
	1. Present Value of Expected Future Statutory Supplemental Contributions			\$177,918,642
	2. Present Value of Future Normal Costs			213,193,949
	3. Total Expected Future Assets			\$391,112,591
C.	Total Current and Expected Future Assets			\$1,296,405,105
D.	Current Benefit Obligations	Non-Vested	Vested	Total
	1. Benefit recipients:			
	(a) Retirement annuities	-	\$740,274,642	\$740,274,642
	(b) Disability benefits	-	9,528,616	9,528,616
	(c) Beneficiaries	-	54,776,735	54,776,735
	2. Vested terminated members	-	34,621,243	34,621,243
	3. Other non-vested terminated members	-	2,274,788	2,274,788
	4. Active members:			
	(a) Retirement benefits	\$2,050,966	\$379,474,517	\$381,525,483
	(b) Disability benefits	76,846	6,684,006	6,760,852
	(c) Death benefits	70,683	6,519,142	6,589,825
	(d) Withdrawal benefits	<u>563,337</u>	<u>11,951,670</u>	12,515,007
	5. Total Current Benefit Obligations	\$2,761,832	\$1,246,105,359	\$1,248,867,191
E.	Expected Future Benefit Obligations			<u>\$264,158,342</u>
F.	Total Current and Expected Future Benefit Obligations - Present Value of Benefits: $(D.5 + E)$			\$1,513,025,533
G.	Current Unfunded Actuarial Liability (D.5 - A)			\$343,574,677
H.	Current and Future Unfunded Actuarial Liability (F - C)			\$216,620,428

#### EXHIBIT III

Supplementary Information Required by the GASB – Schedule of Employer Contributions

Plan Year Ended June 30	Actuarially Required Contribution Rate (Prior Year) (a)	Actual Covered Payroll (b)	Actual Member Contributions (c)	Annual Required Contributions [(a) x (b)] – (c) = (d)	Actual Employer Contributions <sup>(1)</sup> (e)	Percentage Contributed (e) / (d)
1991	18.86%	\$110,131,000	\$7,518,000	\$13,253,000	\$10,255,000	77.38%
1992	18.87	115,274,000	7,821,000	13,931,000	10,489,000	75.29
1993	19.74	122,930,000	8,202,000	16,064,000	10,839,000	67.47
1994	18.68	129,308,000	9,100,000	15,055,000	11,736,000	77.95
1995	18.63	139,175,000	8,788,000	17,140,000	13,084,000	76.34
1996	17.96	145,677,000	9,093,000	17,071,000	15,101,000	88.46
1997	16.97	151,363,000	9,484,000	16,202,000	16,043,000	99.02
1998	20.35	168,564,000	11,057,000	23,246,000	21,702,000	93.36
1999	18.82	178,254,000	11,649,000	21,898,000	21,066,000	96.20
2000	18.09	187,950,000	13,184,000	20,816,000	22,622,000	108.68
2001	16.57	202,915,000	13,170,000	20,453,000	23,569,000	115.23
2002	15.81	201,456,000	14,468,000	17,382,000	24,216,000	139.32
2003 <sup>(2)</sup>	18.56	205,655,000	14,222,000	23,948,000	23,370,000	97.59
2004 <sup>(3)</sup>	20.36	221,685,475	14,307,616	30,827,547	23,771,076	77.11
2005 <sup>(3)</sup>	21.59	223,762,071	13,586,719	34,723,512	23,832,991	68.64

(1) Includes contributions from other sources (if applicable).

(2) Actuarially Required Contribution Rate prior to change in Actuarial Assumptions and Plan Provisions is 16.19%.

(3) Actual Covered Payroll is based on actual contributions received.

#### EXHIBIT IV

Supplementary Information Required by the GASB – Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded/ (Overfunded) AAL (UAAL) (b) – (a)	Funded Ratio (a) / (b)	Actual Covered Payroll (Previous FY) (c)	UAAL as a Percentage of Covered Payroll [(b) – (a)] / (c)
07/01/1991	\$326,357,000	\$495,740,000	\$169,383,000	65.83%	\$110,131,000	153.80%
07/01/1992	355,998,000	533,865,000	177,867,000	66.68	115,274,000	154.30
07/01/1993	393,168,000	571,059,000	177,891,000	68.85	122,930,000	144.71
07/01/1994	407,275,000	596,441,000	189,166,000	68.28	129,308,000	146.29
07/01/1995	445,733,000	633,070,000	187,337,000	70.41	139,175,000	134.61
07/01/1996	494,931,000	664,072,000	169,141,000	74.53	145,677,000	116.11
07/01/1997	556,406,000	805,066,000	248,660,000	69.11	151,363,000	164.28
07/01/1998	625,053,000	861,584,000	236,531,000	72.55	168,564,000	140.32
07/01/1999	704,233,000	938,847,000	234,614,000	75.01	178,254,000	131.62
07/01/2000	801,823,000	998,253,000	196,430,000	80.32	187,950,000	104.51
07/01/2001	869,045,000	1,060,931,000	191,886,000	81.91	202,915,000	94.56
07/01/2002	899,572,000	1,141,300,000	241,728,000	78.82	201,456,000	119.99
07/01/2003	898,760,000	1,189,361,000	290,601,000	75.57	205,655,000	141.31
07/01/2004	898,859,732	1,251,460,084	352,600,352	71.82	221,685,475	159.05
07/01/2005	905,292,514	1,299,831,584	394,539,070	69.65	223,762,071	176.32

### EXHIBIT V

#### **Determination of Contribution Sufficiency – Total**

	July 1, 2005			
A. Statutory Contributions – Chapter 354A	Percent of Payroll	Dollar Amount		
. Employee contributions	5.73%	\$13,059,350		
2. Employer contributions	8.65	19,698,785		
3. Supplemental contributions				
(a) 1996 Legislation	0.81	1,850,000		
(b) 1997 Legislation	1.30	2,953,000		
4. Administrative expense assessment	<u> </u>			
5. Total	<u>16.49%</u>	<u>\$37,561,135</u>		
3. Required Contributions – Chapter 356				
I. Normal Cost:				
(a) Retirement	8.00%	\$18,218,956		
(b) Disability	0.23	521,572		
(c) Death	0.21	470,649		
(d) Withdrawal	0.80	1,824,326		
(e) Total	<u>9.24%</u>	<u>\$21,035,503</u>		
2. Supplemental contribution amortization	14.30%	\$32,578,088		
3. Allowance for administrative expenses	0.24	546,765		
ł. Total	<u>23.78%</u>	<u>\$54,160,356</u>		
C. Contribution Sufficiency / (Deficiency): (A.5) – (B.4)	-7.29%	-\$16,599,221		
Projected annual payroll for fiscal year beginning on the valuation date		\$227,818,794		

# EXHIBIT VI

**Determination of Contribution Sufficiency – Basic** 

	July 1, 2005			
A. Statutory Contributions – Chapter 354A	Percent of Payroll	Dollar Amount		
. Employee contributions	8.00%	\$1,693,812		
2. Employer contributions	11.64	2,464,497		
S. Supplemental contributions				
(a) 1996 Legislation	0.81	171,499		
(b) 1997 Legislation	1.30	275,245		
. Administrative expense assessment	<u> </u>			
5. Total	<u>21.75%</u>	<u>\$4,605,053</u>		
3. Required Contributions – Chapter 356				
Required Contributions – Chapter 356     Normal Cost:				
-	10.23%	\$2,166,193		
. Normal Cost:	10.23% 0.36	\$2,166,193 77,256		
. Normal Cost: (a) Retirement		77,256		
<ul> <li>Normal Cost:</li> <li>(a) Retirement</li> <li>(b) Disability</li> </ul>	0.36	77,256 59,350		
<ul> <li>Normal Cost:</li> <li>(a) Retirement</li> <li>(b) Disability</li> <li>(c) Death</li> </ul>	0.36 0.28			
<ul> <li>Normal Cost:</li> <li>(a) Retirement</li> <li>(b) Disability</li> <li>(c) Death</li> <li>(d) Withdrawal</li> </ul>	0.36 0.28 <u>1.50</u>	77,256 59,350 <u>318,097</u>		

### EXHIBIT VII

**Determination of Contribution Sufficiency – Coordinated** 

	July 1, 2005			
A. Statutory Contributions – Chapter 354A	Percent of Payroll	Dollar Amount		
. Employee contributions	5.50%	\$11,365,538		
. Employer contributions	8.34	17,234,288		
. Supplemental contributions				
(a) 1996 Legislation	0.81	1,673,834		
(b) 1997 Legislation	1.30	2,686,400		
. Administrative expense assessment	<u> </u>			
. Total	<u>15.95%</u>	<u>\$32,960,060</u>		
<ol><li>Required Contributions – Chapter 356</li></ol>				
Required Contributions – Chapter 356     Normal Cost:				
	7.77%	\$16,052,763		
. Normal Cost:	7.77% 0.22	\$16,052,763 444,315		
. Normal Cost: (a) Retirement				
. Normal Cost: (a) Retirement (b) Disability	0.22	444,315 411,299		
<ul> <li>Normal Cost:</li> <li>(a) Retirement</li> <li>(b) Disability</li> <li>(c) Death</li> </ul>	0.22 0.20	444,315		
<ul> <li>Normal Cost:</li> <li>(a) Retirement</li> <li>(b) Disability</li> <li>(c) Death</li> <li>(d) Withdrawal</li> </ul>	0.22 0.20 <u>0.73</u>	444,315 411,299 <u>1,506,230</u>		

### EXHIBIT VIII

### Supplementary Information Required by the GASB

Valuation date	July 1, 2005
Actuarial cost method	Entry Age Normal
Amortization method	Level percentage of payroll, assuming payroll increases of 5.00% per annum
Remaining amortization period	16 years remaining as of July 1, 2005
Asset valuation method	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).
Actuarial assumptions:	
Investment rate of return:	
Pre-retirement	8.50% per annum
Post-retirement	8.50% per annum
Projected salary increases	Select and ultimate rates by age, with ultimate rates of 5.00% - 6.90%
Plan membership:	
Pensioners and beneficiaries receiving benefits	2,505
Terminated vested members entitled to, but not yet receiving benefits	1,368
Other terminated non-vested members	1,687
Active members	<u>4,349</u>
Total	9,909

### EXHIBIT IX

### Actuarial Assumptions and Actuarial Cost Method

ortality Rates:		
Healthy Pre-Retirement:		
	Male:	1983 Group Annuity Mortality Table for males set back 7 years
	Female:	1983 Group Annuity Mortality Table for females set back 5 years
Healthy Post-Retirement:		
	Male:	1983 Group Annuity Mortality Table for males set back 3 years
	Female:	1983 Group Annuity Mortality Table for females set back 1 year
Disability:		
	Male:	1977 Railroad Retirement Board Mortality Table for Disabled Lives
	Female:	1977 Railroad Retirement Board Mortality Table for Disabled Lives

Shown below for selected ages:

Summary of Rates:

				Rate (	%)		
		Pre-Retirement F Mortality		etirement tality			Post-Disability
Age	Male	Female	Male	Female	Withdrawal	Disability	Mortality
20	0.03	0.02	0.03	0.02	6.00	0.02	2.71
25	0.04	0.02	0.04	0.02	4.50	0.02	2.72
30	0.04	0.03	0.05	0.03	3.00	0.03	2.72
35	0.05	0.03	0.07	0.04	2.25	0.03	2.73
40	0.07	0.05	0.10	0.06	1.50	0.04	2.73
45	0.10	0.07	0.15	0.09	1.25	0.06	2.74
50	0.17	0.10	0.28	0.15	1.00	0.12	2.89
55	0.31	0.16	0.48	0.23	0.50	0.24	3.71
60	0.52	0.25	0.71	0.38	0.00	0.48	4.73
65	0.77	0.42	1.11	0.64	0.00	0.00	5.98

Summary of Retirement Rates:	Shown below for selected age:

Reporting Information for the St. Paul Teachers' Retirement Fund Association

SECTION 4:

		Rate (%)					
Age	Basic Members Eligible for Rule of 90 Provision	Basic Members Not Eligible for Rule of 90 Provision	Coordinated Members Eligible for Rule of 90 Provision	Coordinated Members Not Eligible for Rule of 90 Provision			
54 & under	40.00	0.00	40.00	0.00			
55	40.00	10.00	40.00	5.00			
60	40.00	10.00	40.00	5.00			
65	40.00	40.00	40.00	20.00			
70	50.00	50.00	40.00	40.00			
75	80.00	80.00	80.00	80.00			
80 & over	100.00	100.00	100.00	100.00			
Withdrawal Rates	thir Firs		ased on recent plan experience table. Select rates are as fol				

Third year: 6%

Salary Increases:	fiscal year and annu- below. During a ten-	ted salary for prior fiscal year, with new hires annualized, increased to current year and annually for each future year according to the ultimate rate table . During a ten-year select period, $0.30\% \times (10$ -T) where T is completed years of e is added to the ultimate rate.			
	Age	Ultimate Rate of Annual Age Salary Increases			
	Less than 22 25	6.90%			
		6.75			
	30	6.50			
	35	6.25			
	40	6.00			
	45	5.75			
	50	5.50			
	55	5.25			
	60 & Over	5.00			
Retirement Age:					
Active Members:	Active members are assumed to retire according to the graded rates shown in the rate table. Rates are applied beginning at the participant's first early retirement age.				
Deferred Members:	Basic members are assumed to retire at age 60. Coordinated members are assumed to retire at age 63. If over the assumed retirement age, one year from valuation date.				
Other Non-Vested					
Members:	Return of contribution	ons is assumed to occur immedia	itely.		

Unknown Data for Members:	The submitted participant data has been reviewed for reasonableness and consistence. With data submitted for prior valuations. We have not audited this data, and the results of this valuation may change based on the accuracy of the underlying data. In cases where submitted data was missing or incomplete, the following assumptions were applied:		
	Date of Birth:July 1, 1960Sex:MaleDeferred Benefit:Calculate estimate using service at termination date. Salary at termination is estimated based on assumed termination date if not available.		
Percent Married:	85% of male members and 60% of female members are assumed to be married. Married members are assumed to have two children.		
Age of Spouse:	Female four years younger than male.		
Net Investment Return:			
Pre-Retirement:	8.50% per annum		
Post-Retirement:	8.50% per annum		
Administrative Expenses:	Prior year administrative expenses (excluding investment expenses) expressed as a percentage of prior year payroll.		
Allowance for Combined Service Annuity:	7.00% load on liabilities for active members and 30.00% load on liabilities for form members.		
Return of Contributions:	All employees withdrawing after becoming eligible for a deferred benefit were assumed to take the larger of their contributions accumulated with interest or the val of their deferred benefit.		

Special Consideration:	Additional post retirement benefit increase is accounted for by increasing the reserve value for all service retirements, disability retirements and survivors eligible for the increase by an amount that equals the excess of the five year time weighted total rate of return over the assumed interest rate of 8.50% multiplied by the quantity of one minus the rate of contribution deficiency.			
Benefit Increases After Retirement (COLA):	2.00% per annum.			
<b>Optional Benefit Forms:</b>	Married members assumed	to elect the follo	wing forms of benefit:	
		Males	Females	
	Life Annuity Option	45%	80%	
	50% J&S Option	10%	10%	
	100% J&S Option	45%	10%	
Asset Valuation Method:	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 the fiscal year (based on the assumed interest rate employed in the July 1 Actuarial Valuation of the fiscal year).			
Actuarial Cost Method:	Entry Age Normal 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 Norma Cost determined as if the current benefit accrual rate had always been in effect.			
Payment on the Unfunded Actuarial Accrued Liability:	The Unfunded Actuarial A each year to the statutory a annum.			

Supplemental Contributions:		hool District and t lemental contribut	he State of Minnesota are scheduled to make the ions to the plan.
1996 Legislation:	Supplemental contributions according to the following schedule:		
	Year	State	School
	06/30/03+	\$1,050,000	\$800,000
1997 Legislation:	Annual suppler	nental contribution	ns of \$2,953,000 made on October 1.

## EXHIBIT X

#### Summary of Plan Provisions - Basic

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

Plan Year:	July 1 through June 30
Eligibility:	A teacher who is employed in a public school district, other than a charter school, located in the corporate limits of the City of St. Paul and who is not covered by the Social Security Act. Also includes employees of the St. Paul Teachers Retirement Fund.
Contributions:	Member: 8.00% of Salary.
	Employer: 11.64% of Salary.
Allowable Service:	All periods of service for which salary deductions were made and service during sabbatical leave. After June 30, 1974, St. Paul service for part-time teachers is granted on a proportional basis using actual duty days vs. the agreed number of annual duty days. Years of service credited prior to May 31, 1976 are not recomputed.
Salary:	Total compensation. Excludes lump-sum payments for unused vacation leave or unused sick leave at separation.
Average Salary:	Average of the five highest years of Salary during the last ten years while making contributions or while disabled.

<b>irement:</b> <u>Normal Retirement Benefit</u> :	
Age/Service Requirement:	Age 65 and five years of Allowable Service. Proportionate Retirement Annuity is available at age 65 and one year of Allowable Service.
Amount:	2.50% of Average Salary for each year of Allowable Service.
Early Retirement Benefit:	
Age/Service Requirement:	An unreduced benefit is available upon the attainment of age 60 and 25 years of Allowable Service, or Rule of 90 (Age plus Allowable Service totals 90).
	A reduced benefit is available upon the attainment of age 55 and five years of Allowable Service.
Amount:	<ul> <li>The greater of (a) or (b):</li> <li>(a) 2.00% of Average Salary for each year of Allowable Service not to exceed 40 years with reduction of 0.25% for each month the member is under age 65 (age 60 if 25 years of Allowable Service). No reduction if age plus years of Allowable Service totals 90.</li> </ul>
	(b) 2.50% of Average Salary for each year of Allowable Service assuming augmentation to age 65 at 3.00% per year and actuarial reduction for each month the member is under age 65.
Form of Payment:	Life annuity.
Benefit Increases:	Benefits are increased 2.00% annually beginning on the January 1 following fiscal year end if the member has been receiving benefits for at least 12 months at fiscal y end.
	Beneficiaries are entitled to the increase the member would have received. In addition, if the time weighted rate of return over the last five years exceeds 8.509 the Board of Trustees will increase benefits by the excess rate of return multiplied by the quantity of one minus the rate of contribution deficiency.

# SECTION 4: Reporting Information for the St. Paul Teachers' Retirement Fund Association

<b>SECTION 4:</b>	Reporting Information for the St. Paul Teachers' Retirement Fund Association
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Totally and permanently disabled before the age of 65 with five years of St. Paul service.
An annuity of 75% of the annual contract salary for the last full year of service reduced by any Social Security and Workers' Compensation benefits.
Payments are recomputed as a retirement at age 65. Payments stop if disability ceases or death occurs.
Life annuity.
Same as for retirement.
Age 65 with continued disability.
Normal Retirement Benefit based on Average Salary and Allowable Service as if member had continued in his latest position during the period of his disability.
Life annuity.
Same as for retirement.
Active member with three years of St. Paul service.
Benefit of 15% of B.A. salary to spouse plus 25% of B.A. salary to each eligible child (maximum of two). B.A. salary is the maximum salary payable to a teacher holding a B.A. degree.

	Spouse's benefits cease upon death or when the spouse elects to receive survivor's benefits. Such election does not affect benefits paid to children but total benefits may not exceed 90% of the member's final salary. Children's benefits cease upon marriage or age 18 (22 if full time student).
<u>Survivor's Benefits:</u> Age/Service Requirement:	Active or retired member with five years of St. Paul service. A surviving spouse must have been married to the member for three years at the time of his death or retirement, whichever occurs first.
Amount:	Survivor's payment of the 100% joint and survivor benefit earned by the member to the date of his death or his retirement, whichever occurs first.
Benefit Increases:	Same as for a retired person if payments have been made over one year. The allocation is based on the years of Allowable Service of the person on whose behalf the annuity is paid and the years receiving the payment.
<u>Refund of Contributions:</u> Age/Service Requirement:	Death of a member or former member when Family Benefits and Survivor's Benefits are not payable.
Amount:	The excess of the member's contributions with 6.00% interest (unless the member was disabled) over total benefits paid.
Withdrawal:	
Deferred Annuity:	
Age/Service Requirement:	Five years of Allowable Service.
Amount:	Benefit computed under law in effect at termination and increased by the following annual percentage:
	<ul> <li>(a) 3.00% until January 1 of the year following the attainment of 55, and</li> <li>(b) 5.00% thereafter until the annuity begins.</li> </ul>
	Amount is payable as a normal or early retirement benefit.

<b>Refund of Contributions:</b> <i>Age/Service Requirement:</i>	Termination of teaching service.
Amount:	Member's contributions with 5.00% interest if termination occurred before May 16, 1989 and 6.00% interest if termination occurred after May 16, 1989. A deferred annuity may be elected in lieu of a refund.

# EXHIBIT XI

#### Summary of Plan Provisions - Coordinated

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

Plan Year:	July 1 through June 30
Eligibility:	A teacher who is employed in a public school district, other than a charter school, located in the corporate limits of the City of St. Paul and who is covered by the Social Security Act. Also includes employees of the St. Paul Teachers Retirement Fund.
Contributions:	Member: 5.50% of Salary.
	Employer: 8.34% of Salary.
Allowable Service:	All periods of service for which salary deductions were made and service during sabbatical leave. After June 30, 1974, St. Paul service for part-time teachers is granted on a proportional basis using actual duty days vs. the agreed number of annual duty days. Years of service credited prior to May 31, 1976 are not recomputed.
Salary:	Total compensation. Excludes lump-sum payments for unused vacation leave or unused sick leave at separation.
Average Salary:	Average of the five highest successive years of Salary. Average Salary is based on all Allowable Service if less than five years.

Retirement:	
<u>Normal Retirement Benefit</u> : Age/Service Requirement:	First hired before July 1, 1989:
	<ul> <li>(a) Age 65 and three years of Allowable Service.</li> <li>(b) Proportionate Retirement Annuity is available at age 65 and one year of Allowable Service.</li> </ul>
	First hired after July 1, 1989:
	<ul> <li>(a) The greater of age 65 or the age eligible for full Social Security retirement benefits (but not greater than age 66) and three years of Allowable Service.</li> <li>(b) Proportionate Retirement Annuity is available at Normal Retirement Age and one year of Allowable Service.</li> </ul>
Amount:	1.70% of Average Salary for each year of Allowable Service.
Early Retirement Benefit:	
Age/Service Requirement:	Age 55 and three years of Allowable Service. Any age with 30 years of Allowable Service. Rule of 90: Age plus Allowable Service totals 90.
Amount:	First hired before July 1, 1989:
	<ul> <li>The greater of (a) or (b):</li> <li>(a) 1.20% of Average Salary for each of the first ten years of Allowable Service plus 1.70% of Average Salary for each subsequent year of Allowable Service with reduction of 0.25% for each month the member is under age 65 (age 62 if 30 years of Allowable Service). No reduction if age plus years of Allowable Service totals 90.</li> </ul>
	(b) 1.70% of Average Salary for each year of Allowable Service assuming augmentation to age 65 at 3.00% per year and actuarial reduction for each month the member is under age 65.

	First hired after July 1, 1989:
	1.70% of Average Salary for each year of Allowable Service assuming augmentation to Normal Retirement Age at 3.00% per year and actuarial reduction for each month the member is under Normal Retirement Age.
Form of Payment:	Life annuity. Actuarial equivalent options are:
	(a) Guaranteed refund,
	(b) 15 year certain and life, and
	(c) 50% or 100% joint and survivor with bounce back feature without additional reduction.
Benefit Increases:	Benefits are increased 2.00% annually beginning on the January 1 following fiscal year end if the member has been receiving benefits for at least 12 months at fiscal year end. Beneficiaries are entitled to the increase the member would have received.
	In addition, if the time weighted rate of return over the last five years exceeds 8.50%, the Board of Trustees will increase benefits by the excess rate of return multiplied by the quantity of one minus the rate of contribution deficiency.
Disability:	
Age/Service Requirement:	Totally and permanently disabled before Normal Retirement Age with three years of Allowable Service. Also, at least two of the years of Allowable Service must have been uninterrupted.
Amount:	Normal Retirement Benefit based on Allowable Service and Average Salary at disability without reduction for commencement before Normal Retirement Age. Benefit is reduced by Workers' Compensation.

	Payments are recomputed as a retirement benefit at the Normal Retirement Age. Payments stop if disability ceases or death occurs. Benefits may be reduced on resumption of partial employment.
Form of Payment:	Same as for retirement.
Benefit Increases:	Same as for retirement.
<u>Retirement After Disability:</u> Age/Service Requirement:	Normal Retirement Age with continued disability.
Amount:	Any optional annuity continues, otherwise the larger of the disability benefit paid before Normal Retirement Age or the normal retirement benefit available at the Normal Retirement Age, or an actuarially equivalent optional annuity.
Benefit Increases:	Same as for retirement.
Death: Surviving Spouse Annuity:	
Age/Service Requirement:	Any active member who dies with three years of Allowable Service prior to retirement or disability benefits commence.
	Any former member who dies before retirement or disability benefits commence.
Amount:	Survivor's payment of the 100% joint and survivor benefit the member could have elected if terminated.
	Upon the death of any vested active member, the benefit is calculated using 50.00% of otherwise applicable early retirement reduction from the member's age 55 to the member's benefit commencement age.
	If a former member had attained age 55 prior to death and had earned at least three years of Allowable Service prior to separation of service, benefits will commence immediately, reduced for early commencement from Normal Retirement Age. If a former member had earned at least 30 years of Allowable Service prior to separation

# SECTION 4: Reporting Information for the St. Paul Teachers' Retirement Fund Association

	of service, benefit will commence immediately, reduced for early commencement from age 62. If a former member dies prior to age 55, benefits are deferred to age 55
Benefit Increases:	Same as for a retired person if payments have been made over one year. The allocation is based on the years of Allowable Service of the person on whose behalf the annuity is paid and the years receiving the payment.
Refund of Contributions:	
Age/Service Requirement:	Member or former member dies before receiving any disability or retirement benefit and Survivor's 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 after May 16, 1989.
Withdrawal:	
<u>Deferred Annuity</u> :	
Age/Service Requirement:	Three years of Allowable Service.
Amount:	Benefit computed under law in effect at termination and increased by the following annual percentage:
	<ul> <li>(a) 3.00% until January 1 of the year following the attainment of 55, and</li> <li>(b) 5.00% thereafter until the annuity begins.</li> </ul>
	Amount is payable as a normal or early retirement benefit.
Refund of Contributions:	
Age/Service Requirement:	Termination of teaching service.
Amount:	Member's contributions with 5.00% interest if termination occurred before May 16, 1989 and 6.00% interest if termination occurred after May 16, 1989. A deferred annuity may be elected in lieu of a refund.
Changes in Plan Provisions:	There have been no changes made to the plan provisions since the prior valuation.

# SECTION 4: Reporting Information for the St. Paul Teachers' Retirement Fund Association