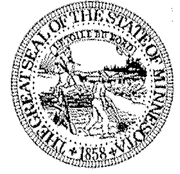


S.F. 506
(Betzold, by request)

H.F. 592
(Thissen)

Executive Summary of Commission Staff Materials

Affected Pension Plan(s): TRA, DTRFA, and SPTRA

Relevant Provisions of Law: Minnesota Statutes, Chapters 354, 354A, and 356

General Nature of Proposal: Benefit Accrual Rates, Member and Employer Contribution Rates, and State Education Aid Increases

Date of Summary: March 17, 2009

Specific Proposed Change(s)

The proposed legislation makes the following changes:

1. Increase in School Operating State Aid. Starting in Fiscal Year 2012, state aid payments to school operating funds would be increased by a total of two percent of Fiscal Year 2012 covered salaries, in four equal one-half percent of salary increments, for employing units qualified to received state aid and covered by the Teachers Retirement Association (TRA), by the Duluth Teachers Retirement Fund Association (DTRFA), and by the St. Paul Teachers Retirement Fund Association (SPTRFA) (Section 1);
2. Reduces Normal Retirement Age From Age 66 to Age 65. In 2011, the normal retirement age is reduced from age 66 to age 65 for those teachers who have a Social Security age 66 or age 67 full benefit receipt age and the age 62 with 30 years of service credit normal retirement age applicable to teachers hired before July 1, 1989, is extended to all teachers (Sections 2, 9, 10, 18, and 19);
3. Increases Coordinated Program Member Contribution. In four annual installments beginning in 2011, the Coordinated program member contribution rate is increased by two percent of covered salary (Sections 3 and 11);
4. Increases Coordinated Program Employer Contribution. In four annual installments beginning in 2011, the Coordinated Program employer contribution rate is increased by two percent of covered salary (Sections 4 and 12);
5. Adds Retirement Plan Board Authority for Contribution Rate Adjustments. If the actuarial report of the retirement plan indicates a contribution deficiency or a contribution sufficiency after 2014, the applicable retirement board has authority to adjust member and employer contribution rates by one-quarter of one percent annual increments (Sections 5 to 8 and 13 to16); and
6. Increases the Coordinated Program Benefit Accrual Rates. The benefit accrual formula percentage rate for TRA and the two first class city teacher retirement plans for post-2011 service credit for the uniformity tier of benefits is increased from 1.9 percent per year to 2.1 percent per year and the benefit accrual formula percentage rates for the first class city teacher retirement fund associations' Coordinated Programs are increased to the post-2006 TRA benefit accrual formula percentage rates for the Rule-of-90 benefit tier for service rendered after July 1, 2011 (Sections 17, 18 and 20).

Policy Issues Raised by the Proposed Legislation

1. Current actuarial condition of the three teacher retirement funds.
2. Actuarial cost of benefit increase.
3. Affordability of the state education aid increase associated with the proposed employer contribution increase.
4. Conformity with Commission Pension Policy Principles in funding.
5. Conformity with Commission Pension Policy Principles – uniformity.
6. Alternate benefit increase and funding modifications – plan consolidation.

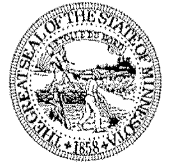
Potential Amendments

No technical or substantive amendments suggested by the Commission staff.

Commission Assumption Change Approval Motion

Resolution 09-1, a motion approving a change in the TRA retirement rate actuarial assumption, is attached.

State of Minnesota \ LEGISLATIVE COMMISSION ON PENSIONS AND RETIREMENT



TO: Members of the Legislative Commission on Pensions and Retirement

FROM: Lawrence A. Martin, Executive Director

RE: S.F. 506 (Betzold, by request); H.F. 592 (Thissen): Teacher Retirement Plans; Normal Retirement Age, Contribution Rate, and Benefit Accrual Rate Changes

DATE: March 16, 2009

General Summary of S.F. 506 (Betzold, by request); H.F. 592 (Thissen)

S.F. 506 (Betzold, by request); H.F. 592 (Thissen) amends portions of Minnesota Statutes, Chapters 127A, 354, 354A, and 356, the laws governing or affecting the Teachers Retirement Association (TRA) and the first class city teacher retirement fund associations, by making the following changes:

1. Increase in School Operating State Aid. Starting in Fiscal Year 2012, state aid payments to school operating funds would be increased by a total of two percent of Fiscal Year 2012 covered salaries, in four equal one-half percent of salary increments, for employing units qualified to received state aid and covered by the Teachers Retirement Association (TRA), by the Duluth Teachers Retirement Fund Association (DTRFA), and by the St. Paul Teachers Retirement Fund Association (SPTRFA) (Section 1);
2. Reduces Normal Retirement Age From Age 66 to Age 65. In 2011, the normal retirement age is reduced from age 66 to age 65 for those teachers who have a Social Security age 66 or age 67 full benefit receipt age and the age 62 with 30 years of service credit normal retirement age applicable to teachers hired before July 1, 1989, is extended to all teachers (Sections 2, 9, 10, 18, and 19);
3. Increases Coordinated Program Member Contribution. In four annual installments beginning in 2011, the Coordinated program member contribution rate is increased by two percent of covered salary (Sections 3 and 11);
4. Increases Coordinated Program Employer Contribution. In four annual installments beginning in 2011, the Coordinated Program employer contribution rate is increased by two percent of covered salary (Sections 4 and 12);
5. Adds Retirement Plan Board Authority for Contribution Rate Adjustments. If the actuarial report of the retirement plan indicates a contribution deficiency or a contribution sufficiency after 2014, the applicable retirement board has authority to adjust member and employer contribution rates by one-quarter of one percent annual increments (Sections 5 to 8 and 13 to16); and
6. Increases the Coordinated Program Benefit Accrual Rates. The benefit accrual formula percentage rate for TRA and the two first class city teacher retirement plans for post-2011 service credit for the uniformity tier of benefits is increased from 1.9 percent per year to 2.1 percent per year and the benefit accrual formula percentage rates for the first class city teacher retirement fund associations' Coordinated Programs are increased to the post-2006 TRA benefit accrual formula percentage rates for the Rule-of-90 benefit tier for service rendered after July 1, 2011 (Sections 17, 18 and 20).

Relevant Background Information

- **Attachment A** contains background information on teacher retirement coverage.
- **Attachment B** contains background information on the Teachers Retirement Association (TRA).
- **Attachment C** contains background information on the history of the Duluth Teachers Retirement Fund Association (DTRFA).
- **Attachment D** contains background information on the history of the St. Paul Teachers Retirement Fund Association (SPTRFA).
- **Attachment E** contains background information on benefit accrual rates and their function within benefit calculations.

Commission Motion to Approve Assumption Changes

A potential motion for the Commission to approve the use of a revised retirement rate assumption for TRA is attached. The consulting actuary retained by TRA indicates an expectation that future retirement frequency will change as a result of the proposed legislation and has suggested a revised actuarial assumption based on that expectation.

Analysis and Discussion

S.F. 506 (Betzold, by request); H.F. 592 (Thissen), relating to the Teachers Retirement Association (TRA), the Duluth Teachers Retirement Fund Association (DTRFA), and the St. Paul Teachers Retirement Fund Association (SPTRFA), would reduce the normal retirement age for post-1989 hires covered by the applicable plan's Coordinated Program, increase the benefit accrual rate of the first class city teacher retirement fund association Coordinated Programs to match the post-2006 service credit TRA Coordinated Program benefit accrual rates for post-2011 service credit, increase the benefit accrual rate of TRA by two-tenths of one percent for post-2011 service credit, reduce the teacher Coordinated Program normal retirement ages from age 66 to age 65, extend the age 62 with 30 years of service credit early normal retirement age to post-1989 hires in the teacher retirement plans, increase member and employer contribution rates by two percent over four years after 2011, increase state education aid by two percent in four equal annual installments after 2012, and provide each retirement fund's board authority to adjust member and employer contribution rates by one-quarter of one percent increments if the most recent actuarial work indicates a contribution deficiency or contribution sufficiency.

The proposed legislation raises a number of pension or related public policy issues for Commission consideration and potential Commission discussion, as follows:

1. Current Actuarial Condition of the Three Teacher Retirement Funds. The policy issue is the current actuarial condition of the three teacher retirement funds to which the proposed legislation applies. The following sets forth the July 1, 2007, and the July 1, 2008, actuarial valuation results for the three teacher retirement funds:

	TRA				DTRFA			
	2007		2008		2007		2008	
Membership								
Active Members		77,694		76,515		1,150		1,140
Service Retirees		42,679		43,041		1,119		1,128
Disabilitants		636		641		15		17
Survivors		3,223		3,299		93		98
Deferred Retirees		12,636		12,168		321		310
Nonvested Former Members		22,914		22,115		682		676
Total Membership		159,782		157,779		3,380		3,369
Funded Status								
Accrued Liability		$21,470,314,497		$22,230,841,000		$332,216,981		$363,044,284
Current Assets		$18,794,389,076		$18,226,985,000		$288,264,749		$298,067,085
Unfunded Accrued Liability		$2,675,925,421		$4,003,856,000		$43,952,232		$64,977,199
Funding Ratio	87.54%		81.99%		86.77%		82.10%	
Financing Requirements								
Covered Payroll		$3,814,373,772		$3,846,190,000		$58,666,809		$59,548,231
Benefits Payable		$1,273,093,384		$1,330,837,000		$20,065,048		$21,579,521
Normal Cost	9.37%	$357,343,265	8.77%	$337,281,000	9.23%	$5,416,358	8.43%	$5,022,602
Administrative Expenses	0.29%	$11,061,684	0.27%	$10,385,000	0.79%	$463,468	0.83%	$494,250
Normal Cost & Expense	9.66%	$368,404,949	9.04%	$347,666,000	10.02%	$5,879,826	9.26%	$5,516,852
Normal Cost & Expense	9.66%	$368,404,949	9.04%	$347,666,000	10.02%	$5,879,826	9.26%	$5,516,852
Amortization	3.78%	$144,183,329	6.04%	$232,310,000	4.51%	$2,645,873	6.60%	$3,930,183
Total Requirements	13.44%	$512,588,278	15.08%	$579,976,000	14.53%	$8,525,699	15.87%	$9,447,035
Employee Contributions	5.51%	$210,143,378	5.50%	$211,704,000	5.50%	$3,226,675	5.50%	$3,275,153
Employer Contributions	5.72%	$218,013,895	5.69%	$218,752,000	5.79%	$3,396,808	5.79%	$3,447,843
Employer Add'l Cont.	0.00%	$0	0.00%	$0	0.00%	$0	0.00%	$0
Direct State Funding	0.49%	$18,819,110	0.50%	$19,170,000	0.00%	$0	0.58%	$346,000
Other Govt. Funding	0.07%	$2,500,000	0.06%	$2,500,000	0.00%	$0	0.00%	$0
Administrative Assessment	0.00%	$0	0.00%	$0	0.00%	$0	0.00%	$0
Total Contributions	11.78%	$449,476,383	11.75%	$452,126,000	11.29%	$6,623,483	11.87%	$7,068,996
Total Requirements	13.44%	$512,588,278	15.08%	$579,976,000	14.53%	$8,525,699	15.87%	$9,447,035
Total Contributions	11.78%	$449,476,383	11.75%	$452,126,000	11.29%	$6,623,483	11.87%	$7,068,996
Deficiency (Surplus)	1.65%	$63,111,895	3.33%	$127,850,000	3.24%	$1,902,216	4.00%	$2,378,039
Amortization Target Date	2037		2037		2032		2032	
Actuary	Segal		Mercer		Segal		Segal	

	SPTRFA			
	2007		2008	
Membership				
Active Members		3,999		4,142
Service Retirees		2,413		2,514
Disabilitants		24		26
Survivors		284		290
Deferred Retirees		1,693		1,695
Nonvested Former Members		1,538		1,403
Total Membership		9,951		10,070
Funded Status				
Accrued Liability		$1,391,297,918		$1,432,040,000
Current Assets		$1,015,722,034		$1,075,951,000
Unfunded Accrued Liability		$375,575,884		$356,089,000
Funding Ratio	73.01%		75.13%	
Financing Requirements				
Covered Payroll		$233,099,133		$247,291,000
Benefits Payable		$82,809,201		$88,272,000
Normal Cost	9.05%	$21,099,816	8.66%	$21,396,000
Administrative Expenses	0.30%	$699,297	0.29%	$717,000
Normal Cost & Expense	9.35%	$21,799,113	8.95%	$22,113,000
Normal Cost & Expense	9.35%	$21,799,113	8.95%	$22,113,000
Amortization	14.75%	$34,382,122	8.68%	$21,465,000
Total Requirements	24.10%	$56,181,235	17.63%	$43,578,000
Employee Contributions	5.64%	$13,139,595	5.61%	$13,864,000
Employer Contributions	8.52%	$19,861,736	8.48%	$20,972,000
Employer Add'l Cont.	0.00%	$0	0.00%	$0
Direct State Funding	1.91%	$4,451,216	1.64%	$4,057,000
Other Govt. Funding	0.00%		0.00%	
Administrative Assessment	0.00%	$0	0.00%	$0
Total Contributions	16.07%	$37,452,547	15.73%	$38,893,000
Total Requirements	24.10%	$56,181,235	17.63%	$43,578,000
Total Contributions	16.07%	$37,452,547	15.73%	$38,893,000
Deficiency (Surplus)	8.03%	$18,728,688	1.90%	$4,685,000
Amortization Target Date	2021		2033	
Actuary	Segal		Gabriel Roeder Smith	

2. Actuarial Cost of Benefit Increase. The policy issue is the amount of the actuarial cost increase associated with the benefit increases provided by the proposed legislation and adequacy of the contribution increase provided by the proposed legislation. The following sets forth the results for the Teachers Retirement Association (TRA) of a February 2, 2009, actuarial cost benefit increase estimate by the consulting actuary retained by TRA, Mercer, the impact of the delayed statutory contribution rate increase provided in the proposed legislation, and the consequent actuarial condition of TRA:

	7/1/2008 Results		Actuarial Effect of S.F. 506; H.F. 592		Resulting TRA Actuarial Condition	
Membership						
Active Members		76,515				76,515
Service Retirees		43,041				43,041
Disabilitants		641				641
Survivors		3,299				3,299
Deferred Retirees		12,168				12,168
Nonvested Former Members		22,115				22,115
Total Membership		157,779				157,779
Funded Status						
Accrued Liability		$22,230,841,000		$502,000,000		$22,732,841,000
Current Assets		$18,226,985,000		---		$18,226,985,000
Unfunded Accrued Liability		$4,003,856,000		$502,000,000		$4,505,856,000
Funding Ratio	81.99%				80.18%	
Financing Requirements						
Covered Payroll		$3,846,190,000		---		$3,846,190,000
Benefits Payable		$1,330,837,000		---		$1,330,837,000
Normal Cost	8.77%	$337,281,000	1.00%	$41,000,000	9.77%	$378,281,000
Administrative Expenses	0.27%	$10,385,000	---	---	0.27%	$10,385,000
Normal Cost & Expense	9.04%	$347,666,000	1.00%	$41,000,000	10.04%	$388,666,000
Normal Cost & Expense	9.04%	$347,666,000	1.00%	$41,000,000	10.04%	$388,666,000
Amortization	6.04%	$232,310,000	0.90%	$34,616,000	6.94%	$266,926,000
Total Requirements	15.08%	$579,976,000	1.90%	$75,616,000	16.98%	$655,592,000

	7/1/2008 Results		Actuarial Effect of S.F. 506; H.F. 592		Resulting TRA Actuarial Condition	
Employee Contributions	5.50%	$211,704,000	2.00%	$76,924,000	7.50%	$288,628,000
Employer Contributions	5.69%	$218,752,000	2.00%	$76,924,000	7.69%	$295,676,000
Employer Add'l Cont.	0.00%	$0	---	---	---	---
Direct State Funding	0.50%	$19,170,000	---	---	---	---
Other Govt. Funding	0.06%	$2,500,000	---	---	---	---
Administrative Assessment	0.00%	$0	---	---	---	---
Total Contributions	11.75%	$452,126,000	4.00%	$153,848,000	15.75%	$605,974,000
Total Requirements	15.08%	$579,976,000	1.90%	$75,616,000	16.98%	$655,592,000
Total Contributions	11.75%	$452,126,000	4.00%	$153,848,000	15.75%	$605,974,000
Deficiency (Surplus)	3.33%	$127,850,000	(2.10%)	($78,232,000)	1.23%	$49,618,000
Amortization Target Date	2037					

No actuarial cost estimate for the benefit increase was provided to the Commission by the Duluth Teachers Retirement Fund Association (DTRFA) or by the St. Paul Teachers Retirement Fund Association (SPTRFA) before March 16, 2009, and consequently no comparison similar to the TRA actuarial cost impact comparison is possible.

3. Affordability of the State Education Aid Increase Associated With the Proposed Employer Contribution Increase. The policy issue is the affordability of the State Education Aid increase provided for in the proposed legislation. The proposed legislation provides for four one-half of one percent Fiscal Year 2012 covered salary annual state aid increases beginning in Fiscal Year 2012 for all school districts and charter schools. Assuming that the State Education Aid increase would apply to 95 percent of the total salaries of the three teacher retirement funds (the state aid increase does not apply to Minnesota State Colleges and Universities System (MnSCU) members covered by one of the teacher retirement plans, the State Department of Education employees covered by TRA, or the staff members of the retirement plans) and assuming that the generally applicable 4.5 percent payroll growth assumption for the four-year gap between the most recent actuarial work and Fiscal Year 2012 is accurate, the covered salary figure in 2012 would be $4.7 billion and the annual state aid increase would be $23.5 million (or $23.5 million additional aid for 2012, $47.0 million additional aid for 2013, $70.5 million additional aid for 2014, and $94.0 million additional aid for each year after 2014). Any additional employer contribution under the special retirement board authority to adjust member and employer contribution rates if the retirement plan has a contribution deficiency after 2014 would not be accompanied by any additional state aid.

4. Conformity With Commission Pension Policy Principles in Funding. The policy issue is the extent of compliance with the Commission's Principles of Pension Policy relating to adequate pension funding. Principle III.A. provides for the following:

III. Procedural Principles of Pension Policy

A. Adequate Pension Funding

1. Pre-Existing Funding

No proposed increase in pension benefits for any public pension plan should be recommended by the Legislative Commission on Pension and Retirement until there is established adequate financing to cover the pre-increase normal cost, administrative expense, and amortization contribution requirements of the defined benefit public pension plan calculated according to the applicable actuarial reporting law.

2. Funding Increase

No proposed increase in pension benefits for any defined benefit public pension plan should be recommended by the Legislative Commission on Pensions and Retirement unless there is included, in the proposal, adequate financing to meet any resulting increase in the normal cost and amortization contribution requirements of the defined benefit public pension plan that are estimated by the applicable actuary to result from adopting the proposed benefit increase.

For the TRA, the funding for the existing benefit plan is insufficient as of July 1, 2008, contrary to Principle III.A.1., and the funding of the benefit plan after the benefit increase and the contribution rate increases is projected to be insufficient, contrary to Principle III.A.2. Although no actuarial cost estimates for the DTRFA and SPTRFA were provided to the Commission, the first class city teacher retirement fund associations currently have significant contribution deficiencies, meaning a lack of

compliance with Principle III.A.1., and could be expected to have a contribution deficiency after the benefit increases and contribution increases proposed in the legislation, contrary to Principle III.A.2.

5. Conformity With Commission Pension Policy – Uniformity. The policy issue is the lack of comparability between the three teacher retirement plans and the other general employee retirement plans coordinated with Social Security, the General State Employees Retirement Plan of the Minnesota State Retirement System (MSRS-General), and the General Employee Retirement Plan of the Public Employees Retirement Association (PERA-General). Principle II.C.6. of the Commission's Principles of Pension Policy provides for the following:

   > Uniformity and Equal Benefit Treatment Among Plans
   >
   > There should be equal pension treatment in terms of the relationship between benefits and contributions among the various plans and, as nearly as practicable, within the confines of plan demographics, retirement benefits and member contributions should be uniform.

   Before 1989, PERA-General had an unlimited "Rule of 90" and had it limited in 1989 to pre-1989 hires, and MSRS-General, TRA, and the first class city teacher retirement fund associations were granted in 1989 the "Rule of 90" for pre-1989 hires, placing all of the general employee pension plans on a par. In 1997 (Laws 1997, Chapter 233, Articles 1 and 3), the self-described "uniformity" pension legislation, all of the general employee retirement plans received identical benefit improvements and remained largely comparable. That comparability was disrupted in 2006, with the benefit accrual rate increase for TRA, and would be further disrupted if the 2006 TRA benefit increase was extended to the first class city teacher retirement fund associations, if an additional benefit accrual rate increase was implemented for the teacher retirement plans for post-2011 service credit, and if the teacher normal retirement age was lowered for all members to age 65 or at age 62 with 30 years of service. The Combined Service Annuity, the inter-Minnesota public pension coverage portability provision, works optimally when each pension plan includes comparable benefit eligibility provisions and identical benefit computation provisions. Differences in normal retirement ages do complicate the portability mechanism.

6. Alternate Benefit Increase and Funding Modifications – Plan Consolidation. The policy issue is whether or not a more straightforward mechanism for achieving teacher retirement benefit comparability exists in consolidating the three teacher retirement plans into a single teacher retirement plan. Attempting to replicate TRA benefit coverage within the confines of funding for two additional, very small, risk pools, DTRFA and SPTRFA, is more difficult than utilizing a single large risk pool achieved through consolidation. TRA is a huge risk pool compared to DTRFA or SPTRFA. Larger risk pools are more likely to have more predictable experience and are more likely to have accurate actuarial assumptions, especially mortality. TRA is the only one of the three retirement plans that has regular experience studies, because of its size, which also makes consolidation a potentially beneficial alternate approach to providing all teachers with comparable benefits. Because DTRFA and SPTRFA were established in 1910, five years before the establishment of the predecessor of TRA and 21 years before TRA was created, a consolidation of those plans would overturn a long history and could be expected to be opposed by the applicable plan memberships.

Attachment A

Basic Background Information on Teacher Retirement Coverage

A. Number of Teacher Retirement Plans

Minnesota has three teacher retirement plans:

(1) the Teachers Retirement Association (TRA), which covers K-12 teachers outside the Duluth or St. Paul school districts and most faculty employed by the Minnesota State Colleges and Universities System (MnSCU) who are not covered by the MnSCU Individual Retirement Account Plan (IRAP) defined contribution program (71,690 active members in 2002);

(2) the Duluth Teachers Retirement Fund Association (DTRFA), which covers K-12 teachers for Independent School District No. 709 and some faculty members at the Lake Superior College, a MnSCU institution (1,276 members in 2002); and

(3) the St. Paul Teachers Retirement Fund Association (SPTRFA), which covers K-12 teachers for Independent School District No. 625 and some St. Paul College faculty members (4,306 active members in 2002).

B. Creation of Teacher Retirement Plans

TRA was created in 1931, to replace the Teachers Insurance and Retirement Plan that was created in 1915. The first class city teacher retirement fund associations were authorized by state law in 1909 and actually created in 1910.

C. Teacher Retirement Plan Governance

TRA is a quasi-state agency/instrumentality and is administered by an eight-member board (four active teachers, one retired teacher, and three state officials). The first class city teacher retirement fund associations are nonprofit corporations organized under Minnesota law and are separate from the applicable school district. DTRFA has a nine-member board (five active teachers, two retired teachers, and two school district officials). SPTRFA has a ten-member board (nine active teachers and one school district official).

D. Teacher Retirement Benefit Programs

TRA and the first class city teachers retirement fund associations are all defined benefit (i.e. formula) retirement plans.

TRA converted from a defined contribution (i.e. individual retirement account) retirement plan beginning in 1969. From 1969 to 1973, the plan utilized a career average salary formula. In 1973, the plan shifted to a highest five successive years average salary formula (high-five). The current per year of allowable service credit formula benefit accrual rate is 1.7 percent for pre-2007 service credit and 1.9 percent for post-2006 service credit. Normal retirement age is generally age 65 or age 66, although pre-1989 teachers are covered by the "Rule of 90." TRA was previously covered by the Minnesota Post Retirement Investment Fund (MPRIF) for post-retirement adjustments, which was created in 1969 and revised in 1973, 1980, 1992, and 1997, and which was dissolved under 2008 legislation, and is now covered by an automatic 2.5 percent annual post-retirement adjustment. The Minneapolis Teachers Retirement Fund Association (MTRFA) was consolidated into TRA in 2006.

DTRFA converted from a defined contribution retirement plan in 1971 and uses a highest five successive years average salary formula, with a 1.7 percent per year of allowable service benefit accrual rate. The normal retirement age is generally age 65 or age 66, with the "Rule of 90" available for pre-1989 hires. DTRFA has a separate investment-related post-retirement adjustment mechanism, established in the late 1980s.

SPTRFA shifted from a defined contribution retirement plan in the mid-1950s and has utilized a highest five years average salary formula since then. It has a 1.7 percent per year of allowable service credit benefit accrual rate. It has an age 65 or age 66 normal retirement age, although pre-1989 hires have the "Rule of 90." SPTRFA had a separate investment-related post-retirement adjustment mechanism, established in the late 1970s, and has had a demonstration Consumer Price Index-based post-retirement adjustment mechanism for the 2007 and 2008 calendar years.

E. Funded Levels and Contribution Rates

TRA had retirement assets in 2008 of 18.2 billion, which was 82 percent of its actuarial accrued liability. The TRA member contribution rate is 5.5 percent for most members and the TRA employer contribution rate is 5.5 percent for most employers. The average TRA active member salary in 2008 was $50,267.

DTRFA had retirement assets in 2008 of $298 million, which was 82 percent of its actuarial liability. The DTRFA member contribution rate is 5.50 percent and the DTRFA employer contribution rate is 5.79 percent. The average DTRFA active member salary in 2008 was $52,235.

SPTRFA had retirement plan assets in 2008 of $1.1 billion, which was 75 percent of its actuarial accrued liability. The SPTRFA member contribution rate is 5.50 percent for most members and the SPTRFA employer contribution rate is 8.48 percent. The average SPTRFA active member salary in 2008 was $59,703.

F. State Aid To Teacher Retirement Plans

TRA (or its predecessor) has received state aid since 1915. From 1915 until 1967, the state aid was the result of a statewide property tax levy based on the retirement annuities payable from TRA (ranging from $66,000 in total in 1932 to $16.9 million in 1966). In 1967, an open and standing general fund appropriation to TRA replaced in the statewide property tax levy (initially $20 million in 1967 and increasing to $103 million in 1984). In 1985, the open and standing appropriation was converted to a categorical education aid amount (initially $125 million in 1985 to $149 million in 1988). In 1989, the categorical education aid was folded into the overall general education aid program.

DTRFA and SPTRFA have received state aid since 1967, with their receipt of the equivalent of the TRA funding.

Also, DTRFA and SPTRFA receive additional state aid. The additional state aid programs began in 1997 and 1993 respectively.

G. Investment of Teacher Retirement Plan Assets

The TRA assets are invested by the State Board of Investment (SBI). The first class city teacher retirement fund association boards each invest the assets of their respective retirement plans.

H. Oversight

Legislative oversight of the three teacher retirement plans is the responsibility of the Legislative Commission on Pensions and Retirement (LCPR), the Senate Committee on State and Local Government Operations and Oversight, and the House Committee on State and Local Governmental Operations Reform, Technology and Elections.

Financial oversight of the three teacher retirement plans is provided by the Office of the Legislative Auditor for TRA and by the Office of the State Auditor for the first class city teacher retirement plans.

Attachment B

Background Information on the Teachers Retirement Association (TRA)

The Teachers Retirement Association (TRA) was created in 1931 (Laws 1931, Chapter 406), to replace an earlier statewide teacher retirement program, the Teachers Insurance and Retirement Fund, that was created in 1915 and that was dissolved after it defaulted on benefit payments. Initially, TRA provided a money purchase retirement annuity as its only retirement benefit. A money purchase benefit is a defined contribution benefit, meaning that the benefit is determined by the amount of contributions that were accumulated and the investment income earned on those amassed contributions. The other two statewide pension plans, the General State Employees Retirement Plan of the Minnesota State Retirement System (MSRS-General) and the General Employee Retirement Plan of the Public Employees Retirement Association (PERA-General) were defined benefit plans from their inceptions, 1929 and 1931 respectively. Defined benefit plans provide a benefit based on a formula with each year of service producing an increment of the total benefit, typically based on a percentage of covered salary.

Initially, TRA was not coordinated with Social Security. Coordination with Social Security for TRA occurred on a "split group" election basis in 1959, with the group declining Social Security coverage constituting the TRA Basic Program. The TRA Basic Program has virtually been eliminated through the passage of time, although additional Basic Program members were added when the Minneapolis Teachers Retirement Fund Association (MTRFA) consolidated with TRA in 2006.

After the 1915 Law Teacher Insurance and Retirement Fund defaulted on benefit payments during the Great Depression, and when it was replaced in 1935 by TRA, optional memberships in the form of exemptions were enacted. Participants in the defunct 1915 Law Teacher Insurance and Retirement Fund were allowed to elect to be permanently exempt from TRA coverage. Newly hired teachers after 1931 who were under age 25 were also allowed to elect to be exempt from TRA coverage until reaching age 25. The permanent exempt status and the limited exempt status provisions of TRA were altered in 1957, with the elimination of the limited exempt status authority.

In 1969, in response to complaints from the teacher unions and others about the inadequacy of TRA retirement benefits, the Legislature created three alternative benefit programs. These alternative benefit programs were the Improved Money Purchase Program, to replace the prior money purchase program, the Career Average Salary Formula Program, to parallel the MSRS-General and PERA defined benefit plans, and the Variable Annuity Program, another defined contribution program that was invested wholly in equity (stock) investments. TRA members were provided an opportunity to elect between the three programs in 1969, with a deadline of 1973, and were placed in the Improved Money Purchase Program until they elected differently.

In 1973, the TRA Formula Program had the basis for its retirement annuity calculations changed from a career average salary to a highest five consecutive years' average salary, with a simplification of its benefit accrual rates and a rate increase. In 1987, the TRA vesting requirement was reduced from 10 years to five years. In 1989, TRA was included in major benefit increases, primarily the creation of the "Rule of 90" benefit tier, and the vesting requirement was reduced from five years until three years. In 1994, the TRA benefit accrual rate was increased, based wholly on an additional member contribution. In 1997, as part of "uniformity" legislation, similar benefit accrual rate increases and other benefit increases were extended to other general employee retirement plans. In 2006, when the MTRFA was consolidated into TRA, the TRA benefit accrual rates were increased for post-2006 service credit.

Financial Requirements of and State Contributions to the Teachers Retirement Association (TRA)

The 1915 Law Teachers Insurance and Retirement Fund was funded from monthly contributions from teachers (ranging from $5.00 annually for beginning teachers to $40.00 annually for teachers with more than nine years of service) and from a statewide property tax levy of five one-hundredths of a mill, levied on all taxable property outside of the cities of the first class.

In 1931 (Laws 1931, Chapter 406, Section 12), the Teachers Retirement Association (TRA) replaced the Teachers Insurance and Retirement Fund and the TRA Board was authorized to determine the amount needed to meet the state's obligation to the fund and to certify that amount to the State Auditor. The TRA Board was required to allocate the state obligation between the amount required to pay annuitants who rendered teaching service for and on behalf of the state at large and the amount required to pay annuitants who rendered teaching service for and on behalf of schools and institutions located outside the cities of the first class, including a pro ration for annuity amounts for annuitants who rendered teaching service for the state at large in part and for schools and institutions outside of the cities of the first class on the basis of the teachers' member contributions. The State Auditor was required to include the certified amounts, plus any prior amount not included in a prior levy, plus the state's share of TRA operating cost, but not to

exceed 15/100ths of a mill for the portion of the levy on taxable property outside of the cities of the first class. The "state at large" levy applied to all state taxable property while the "outside of the cities of the first class" levy applied to taxable property outside of the cities of the first class.

In 1935 (Laws 1935, Chapter 301), the 1931 15/100ths of a mill tax levy limit was replaced by a flat $250,000 annual dollar amount tax levy limit. In 1945 (Laws 1945, Chapter 708, Section 6), the tax levy limit appears to have been removed and the financial requirements amount certified by the TRA Board was required to be adjusted by the preceding year's deficit or surplus.

In 1955 (Laws 1955, Chapter 361, Section 9), the references to "annuities" in the TRA financial requirements provisions were replaced by references to "payments."

In 1957 (Extra Session Laws 1957, Chapter 16, Sections 2, 4, and 5), a three percent of salary, up to $4,800, employer contribution was enacted for the 1957-1959 biennium and the employer contribution was increased to six percent of salary for basic members and set at three percent of salary for coordinated members, both up to $4,800, for the 1959-1961 biennium and an additional one percent of salary, up to $4,800, employer contribution was imposed. The employer contributions continued to be allocated between teaching services for the state and at large and teaching services for schools and institutions outside of cities of the first class. In 1959 (Extra Session Laws 1959, Chapter 50, Sections 229 and 39), when TRA coordinated with Social Security, the additional employer contribution was increased to 1.5 percent of salary, up to $4,800, and the political subdivision was required to include the Social Security employer contribution for its employees in its property tax levy.

In 1965 (Laws 1965, Chapter 821, Sections 3, 4, 5, 8, 9, 10, and 15), the covered salary maximum was increased to $7,200, and the TRA property tax levy was clarified to include homesteaded real estate. In 1967 (Laws 1967, Chapter 834, Sections 2, 4, 5, and 6), the covered salary maximum was eliminated. Also in 1967 (Extra Session Laws 1967, Chapter 32, Article 3, Sections 2 and 3), as part of the sales tax enactment, the employer obligation to the Teachers Retirement Association (TRA) was removed from the state property tax levy and became an obligation of the property tax relief (sales tax) fund in the state treasury. In 1969 (Laws 1969, Chapter 485, Sections 7, 14, 15, and 17), the employer regular contribution rate was increased to 3.5 percent for Coordinated Program members and to 7.00 percent for the Basic Program members, and the employer additional contribution was increased to 2.00 percent. Also in 1969 (Laws 1969, Chapter 399, Section 45), the property tax relief fund was renamed as the general fund.

In 1971 (Laws 1971, Chapter 535), the state obligations to the TRA were limited to the portion of the teacher payroll derived from normal school operating funds, basically eliminating payroll derived from Federal funds.

In 1980 (Laws 1980, Chapter 614, Sections 143 and 191), the open and standing appropriations for teacher retirement and teacher Social Security contributions were converted to direct appropriations, but did not affect the amount of the state support. In 1981 (Laws 1981, Chapter 356, Section 355), the employer contribution to TRA for State Education Department and other state agency TRA members was made payable directly by the employing unit and not included in the state general fund direct appropriation to TRA.

In 1985 (First Special Session Laws 1985, Chapter 12, Article 11), a separate set of categorical aids payable to school districts for teacher retirement employer contributions and Social Security contributions were established to replace the prior direct state payment to TRA, the first class city teacher retirement fund associations, and Social Security. In 1987 (Laws 1987, Chapter 398, Article 1), the categorical school aids for teacher retirement and Social Security were folded into the general state aid to education.

Attachment C

Background Information on the Duluth Teachers Retirement Fund Association (DTRFA)

The Duluth Teachers Retirement Fund Association (DTRFA) was created in 1910, under Laws 1909, Chapter 343 (currently Minnesota Statutes, Chapter 354A). The plan covers teachers employed by Independent School District No. 709, Duluth, and some faculty members at the Lake Superior College.

The initial assets of the plan were invested in municipal bonds in 1911. In 1919, the initial DTRFA retirement annuity formula was established with a benefit accrual rate of 1.42 percent of the highest ten years average salary per year of allowable service, with the retirement annuity payable in full at age 55. In 1921, DTRFA was partially invested in individual home mortgages made by the plan. The plan did not invest in corporate equities until 1943, when the first stock investments were made. The normal retirement age was increased from age 55 to age 60 on a phased-in basis between 1948 and 1953.

DTRFA coordinated with Social Security in 1957 on a total plan basis, meaning that all DTRFA members since 1957 have been coordinated program members. At the same time, the DTRFA retirement annuity formula was revised, with the benefit accrual rate reset from 1.42 percent of the highest ten years average salary per year of allowable service to 0.71 percent of the highest ten years average salary per year of allowable service. The plan was also modified in 1957 to permit additional member contributions to produce a larger pension benefit.

In 1964, the plan added a tax-sheltered annuity program under Section 403(b) of the Internal Revenue Code and received a qualification determination from the Internal Revenue System. In 1965, the fund discontinued its home mortgage program for members.

The plan granted several ad hoc post-retirement adjustments during the period 1966-1981, with a ten percent adjustment in 1966, a nine percent adjustment in 1968, a four percent adjustment in 1969, a five percent adjustment in 1971, a 9.5 percent adjustment in 1975, a three percent adjustment in 1976, and an 8.7 percent adjustment in 1981.

In 1971, the DTRFA retirement annuity formula was again revised, with the benefit accrual rate reset to 1.15 percent of the highest five years average salary per year of allowable service and the normal retirement age was set at age 60. In 1973, the DTRFA tax-sheltered annuity program was expanded with the addition of the Variable Fund for equity investments. In 1978, DTRFA coverage and Social Security coverage was extended to part-time and hourly Independent School District No. 709 educators. In 1981, the DTRFA retirement annuity formula was further revised, with the benefit accrual rate reset to 1.25 percent of the highest five years average salary per year of allowable service, and the member contribution was increased to 4.5 percent of covered salary. In 1983, member contributions to the fund became pre-tax contributions under the federal Internal Revenue Code and in 1985, member contributions to the fund became pre-tax contributions under State income tax law.

Also in 1985, a DTRFA thirteenth check post-retirement adjustment mechanism was established, based on investment returns in excess of the post-retirement actuarial interest rate assumption rate and allocated as a particular dollar amount per number of years of service credit plus the number of years on retirement. The unit value over time was:

Year	Unit Value	Year	Unit Value
1985	$34	1991	$52
1986	$44	1992	$50
1987	$48	1993	$55
1988	--	1994	$52
1989	$46	1995	$55
1990	$50		

In 1989, the DTRFA retirement annuity was further modified, with the creation of two benefit tiers. The first benefit tier includes the "Rule of 90" early normal retirement age and the second benefit tier is a larger benefit accrual rate with an age 65-67 normal retirement age. In 1995, the DTRFA benefit accrual rate was increased by 0.13 percent of the highest five years average salary per year of allowable service credit, the thirteenth check mechanism was replaced by a permanent percentage increase mechanism derived from investment income in excess of the post-retirement actuarial interest rate assumption, and the member contribution rate was increased from 4.5 percent of covered salary to 5.5 percent. In 1997, the DTRFA benefit accrual rate was increased by 0.07 percent of the highest five years average salary, to 1.45 percent of average salary per year of service credit for the Old Law (pre-1981) plan, 1.20 percent of average salary for the first ten years of service and 1.70 percent of average salary for all subsequent years of service for the Tier I (Rule of 90) New Law (post-1981) plan, and 1.70 percent of average salary for all years of service for the Tier II (Level Benefit) New Law (post-1981) plan. Direct annual State aid of $486,000 was also established and was redirected to the Minneapolis Teachers Retirement Fund Association (MTRFA) and the St. Paul Teachers Retirement Fund Association (SPTRFA) in 2001, when the plan became fully funded. In 2002, coverage for

teachers in charter schools located in Duluth was changed from DTRFA to the statewide Teachers Retirement Association (TRA).

The DTRFA is managed by a governing board of nine members, including one school board representative, one designee of the school district superintendent, five active member elected representatives, and two retired member elected representatives. In addition to maintaining member records and determining benefit eligibility and amounts, the DTRFA governing board is the investment authority for the assets of the retirement fund.

Attachment D

Background Information on the Establishment and Operation of the St. Paul Teachers Retirement Fund Association (SPTRFA)

The St. Paul Teachers Retirement Fund Association (SPTRFA) was created in 1910 under the authority of Laws 1909, Chapter 343, by the teaching body of the St. Paul public schools with the consent of the St. Paul City Council and was incorporated as a Minnesota corporation in 1910. The plan primarily covers certificated teaching and administrative personnel employed by Independent School District No. 625, St. Paul, but also includes some faculty members employed by the Minnesota State Colleges and Universities System (MnSCU). Teachers who were employed by charter schools that were located in St. Paul previously were members of SPTRFA, but coverage for them was transferred to the statewide Teachers Retirement Association (TRA) in 2002.

Initially, in 1910, membership in the SPTRFA was voluntary and the initial pensions, first paid in 1910, were $30 per month and were funded from a 1.0 percent member contribution and a contribution from the City of St. Paul, subject to a maximum levy. The flat retirement benefit amount was increased to $40 per month in 1913 and to $50 in 1922. The funding of the SPTRFA before 1955 was essentially on a "current disbursements" or "pay-as-you-go" basis, with the total of the member contributions and the City of St. Paul tax levy generally equaling the retirement benefit payout (i.e. in 1952, the member contribution of $223,891 and the tax levy of $289,861 largely was consumed by the annuities payable of $508,923; in 1953, the respective amounts were $233,391; $312,433; and $525,959; and in 1954, $243,181; $334,245; and $529,429).

In 1955, unrelated to any legislative mandate, the SPTRFA member contribution rate was increased from 4.5 percent of covered pay to 6.0 percent of covered pay and the City of St. Paul essentially doubled its local tax levy, from $334,245 in 1954 to $687,000 in 1955. This resulted in SPTRFA beginning to amass reserves for its actuarial liabilities, totaling $1.6 million in assets in 1955. Also in 1955, SPTRFA first retained a consulting actuary, A. A. Weinberg of Chicago, Illinois, who also was the State Employees Retirement Association (SERA, predecessor to the Minnesota State Retirement System (MSRS)) consulting actuary. The applicable tax levy limit for SPTRFA and the other two first class city teacher retirement fund associations was set in 1923 and remained unchanged until 1969, when the levy limit was eliminated following the 1967 inclusion of the first class city teacher retirement fund associations in direct State payment of teacher employer retirement contributions.

In 1975, the local levy for SPTRFA was eliminated and the State funding of the plan, set identical as a percentage of covered payroll to the statewide Teachers Retirement Association (TRA), was set as the total employer support of the plan.

SPTRFA coordinated with Social Security in 1978, effectively closing the SPTRFA Basic Plan to new members. Each existing teacher elected to either remain as a basic member or to begin Social Security coverage (which makes them coordinated members). The current SPTRFA Basic Plan covers the pre-1978 hires who did not elect Social Security coverage. A SPTRFA Coordinated Program was created for all post-1978 hires and for those pre-1978 hires who elected Social Security coverage. Because there have been no new basic members added to the SPTRFA since 1978, not many St. Paul teachers remain as Basic Program active members. As of June 30, 2004, the 362 SPTRFA Basic Program active members made up 8.2 percent of the total SPTRFA active membership, while the 1,689 SPTRFA Basic Program retired members comprised 81.0 percent of the total number of SPTRFA service retiree membership.

The SPTRFA substantially replicated the statewide TRA Coordinated Program benefit plan. In 1983, member contributions to SPTRFA were tax sheltered for federal and State income tax purposes and the plan was determined as tax qualified by the federal Internal Revenue Service. In 1987, the prior direct State funding to SPTRFA was folded into the general education State aid to the school district. Retirement benefits were improved by the addition of a two-tier benefit package, effective in 1989 (Laws 1989, Chapter 319, Article 13), for both Basic and Coordinated Plan members. Coordinated members first hired before July 1, 1989, are eligible for Tier I or Tier II benefits. Members first hired after June 30, 1989, are eligible for Tier II benefits only. Tier I is the "Rule of 90" early normal retirement age benefit program, with a modestly smaller retirement annuity formula for the initial ten years of service credit. Tier II is the "level benefit" later normal retirement age benefit program, with a higher benefit accrual rate for all years of service credit. In 1997 (Laws 1997, Chapter 233, Article 3), legislation improved first class city teacher retirement fund association Coordinated Program benefits, implement a new method of paying a post-retirement increase, and provided additional state, employer, and employee funding. Also in 1997, as part of major benefit increase legislation, special direct State aid to SPTRFA was enacted.

The SPTRFA is managed by a governing board of ten members, one member of the Board of Education of Independent School District No. 625, as designated by the board, and nine elected members. In addition to maintaining member records and determining benefit amounts, the SPTRFA governing board is the investment authority for the assets of the retirement fund.

Attachment E

Benefit Accrual Rates

1. Definition. "Benefit accrual rate" is the percentage of final salary or final average salary amount per year of covered (allowable) service, unit value per year of covered service, or the dollar multiple amount per year of covered service used in the retirement annuity or retirement benefit calculation in a defined benefit retirement plan. The benefit accrual rate is sometimes known as the "formula multiplier." The term does not apply to defined contribution retirement plans.

2. Commission Principles of Pension Policy Provision. The Principles of Pension Policy of the Legislative Commission on Pensions and Retirement does not address the subject specifically, but does address the topic based on the role that the benefit accrual rates play in the provision of ultimate retirement annuities or benefits. The Commission's principles provide that there should be equal treatment within pension plans (Principle II.C.3), that there should be equal uniformity and equal treatment among pension plans (Principle II.C.6), and that there should be adequate benefits at the time of retirement (Principle II.C.7).

   Specifically, the applicable policy principles provide:

   II.C.3. Equal Treatment Within Pension Plans
   There should be equal pension treatment of public employees in terms of the relationship between benefits and contributions.

   II.C.6. Uniformity and Equal Benefit Treatment Among Plans
   There should be equal pension treatment in terms of the relationship between benefits and contributions among the various plans and, as nearly as practicable, within the confines of plan demographics, retirement benefits and member contributions should be uniform.

   II.C.7. Adequacy of Benefits at Retirement
   a. Benefit adequacy requires that retirement benefits respond to changes in the economy.
   b. The retirement benefit should be adequate at the time of retirement.
   c. Except for local police or firefighter relief associations, the retirement benefit should be related to an individual's final average salary, determined on the basis of the highest five successive years' average salary unless a different averaging period is designated by the Legislature.
   d. Except for local police or firefighter relief associations, the measure of retirement benefit adequacy should be at a minimum of thirty years ser-vice, which would be a reasonable public employment career, and at the generally applicable normal retirement age.
   e. Retirement benefit adequacy must be a function of the Minnesota public pension plan benefit and any Social Security benefit payable on account of Minnesota public employment.

   The equal treatment within pension plans and the uniformity/equal benefit treatment among pension plans principles have been part of the Commission's principles since the Commission first adopted and articulated the Principles of Pension Policy in 1961. The equal treatment and uniformity principles appear to have their foundation in funding concerns, the principal orientation of the Commission since its creation as an interim commission in 1955, and appear to be an attempt to avoid "extra" publicly financed retirement benefits, to avoid discontent between groups of public employees, and to avoid demands for similar extra treatment because some members receive a better return on their contribution dollar than others and because differentials disrupt pension financing. In their purest sense, the principles would argue for identical benefit accrual rates for identical or similarly situated public employee groups.

   The adequacy of benefits at retirement principle generally suggests that normal retirement benefits should respond to economic changes, should be adequate as of retirement, measured on the basis of the retiree's final salary, with 30 years of service as a reasonable public employment career, at the normal retirement age, and should reflect any Social Security benefit earned during public employment in providing total retirement income.

3. Policy Considerations Respecting Benefit Accrual Rates. The 1995-1996 Principles of Pension Policy essentially continued the 1980 Principles that provided that the retirement benefit provided by a Minnesota public pension plan should be adequate during the period of retirement and that benefit adequacy at the time of retirement should be measured for an employee at age 65 with 30 years of

service credit. A principal factor, but not the sole factor, in determining an adequate retirement benefit is the benefit accrual rate or rates that apply.

The Commission principles indicate that the Minnesota public pension plans only have an obligation to provide an adequate retirement benefit for career public employees who retire at the normal retirement age and, consequently, do not have an obligation to provide a fully adequate pension benefit to public employees who retire at an earlier age or who retire with less than a full public service career. The Principles indicate that retirement benefit adequacy should be determined on the basis of the person's highest five successive years' average salary and should be measured at the generally applicable normal retirement age with 30 years of service credit. The Principles also indicate that retirement benefit adequacy must be a function of the public pension plan retirement benefit and Social Security benefits earned during public employment.

If pre-retirement income replacement rates are a well-designed measure of benefit adequacy, a replacement ratio target for a 30-years-of-service public employee at the normal retirement age provides a mechanism for determining the appropriate benefit accrual rate or rates.

In 1980-1981, the President's Commission on Pension Policy addressed the question of benefit adequacy, indicating that the replacement of pre-retirement disposable income from all sources is a desirable retirement income goal. That panel indicated that the precise replacement of pre-retirement disposable income was too difficult to quantify, but that a reliable rough sense of the rates for the replacement of gross immediate pre-retirement income can be identified, as follows:

Gross Pre-Retirement	Single Person Replacement of Gross Pre-Retirement Income		Married Couple Replacement of Gross Pre-Retirement Income	
Income	As $ amount	As %	As $ amount	As %
$ 6,500	$ 5,167	79%	$ 5,567	86%
10,000	7,272	73	7,786	78
15,000	9,941	66	10,684	71
20,000	12,282	61	13,185	66
30,000	17,391	58	18,062	60
50,000	25,675	51	27,384	55

Derived from Tables 19 and 20 of Coming of Age: Toward a National Retirement Income Policy, Report of the President's Commission on Pension Policy, prepared by Preston C. Bassett, Consulting Actuary (1980).

More recently, addressing the same question of the replacement percentage of pre-retirement earnings, the National Retirement Income Policy Committee of the American Society of Pension Actuaries, in a 1994 study, recommended that income during retirement from a combination of defined benefit plans, defined contribution plans, and Social Security should provide between 70 percent and 80 percent of pre-retirement earnings.

As part of research published in 1993 for the American Society of Pension Actuaries, a target pre-retirement income replacement ratio was suggested of combining two parts, one part 85 percent of the final year's rate of pay up to an amount equal to 300 percent of the poverty rate and the other part 70 percent of the final year's rate of pay in excess of an amount equal to 300 percent of the poverty rate. Translating the 1993 American Society of Pension Actuaries suggested replacement ratio into a comparable table to that of the 1980-1981 President's Commission on Pension Policy provides the following table:

Gross Pre-Retirement	Single Person Replacement of Gross Pre-Retirement Income		Married Couple Replacement of Gross Pre-Retirement Income	
Income	As $ amount	As %	As $ amount	As %
$ 30,000	$25,000.00	84.0%	$ 25,500.00	85.0%
50,000	39,189.50	78.4	40,620.50	81.2
70,000	53,189.50	76.0	54,620.50	78.0
90,000	67,189.50	74.7	68,620.50	76.2
150,000	109,189.50	72.8	110,620.50	73.7
200,000	144,189.50	72.1	145,620.50	72.8
250,000	179,189.50	71.7	180,620.50	72.2

In 1997, Flora L. Williams and Helen Zhou of Purdue University and Deloitte & Touche LLP, respectively, in "Income and Expenditures in Two Phases of Retirement," surveyed the basis for generalization in the literature about replacement ratio goals and compared three other research reports, as follows:

	Replacement Rate Percentages		
Pre-Retirement Income	*Employee Benefit Plan Review* Report (1990)	Alexander & Alexander Consulting Group Report (1993)	Bruce A. Palmer, Ph.D. Georgia State University Report (1989)
$15,000	78%	82%	82%
20,000	71	76	
25,000	65		71
35,000	55		
40,000		71	68
45,000	50		
55,000	46		
60,000		72	66
80,000		76	68

Note: While not specifically disclosed in the paper, the results appear to relate to a single individual rather than to a couple.

In 1998, Glenn Cooper and Peter Scherer, in the Organization for Economic Cooperation and Development article "Can We Afford to Grow Old," compare replacement ratios in total and replacement ratios for Social Security-akin programs across various countries, concluding that the replacement target for couples in the United States ranges between 70 percent and 90 percent of the pre-retirement income level.

In 1999, the National Endowment for Financial Education, adapting the work of Kenn Tacchino and Cynthia Saltzman, professors at Widener College, suggesting that retiree expenses decrease as retirees get older and that a blended income replacement rate is appropriate, and where an 80 percent replacement rate at retirement translates to a 69.3 percent replacement rate if the retiree lives for 30 years after retirement.

In 2003, Karen Ellers Lahey, Doseong Kim, and Melinda L. Newman, in "Household Income, Asset Allocation, and the Retirement Decision" in the Financial Services Review conclude that the applicable literature on the retirement income replacement target indicates a result between 70 percent and 90 percent.

In 2004, the California State Teachers Retirement System (CalSTRS) conducted a study of the necessary replacement ratio for its retirees, concluding that a range of between 81 percent and 88 percent of pre-retirement income is necessary if the former employer provides the same health care insurance funding to retirees as provided to current employees and a higher percentage replacement if the former employer does not provide the same level of health care insurance funding for retirees.

Also in 2004, Aon Consulting and Georgia State University released its sixth update of a study of retirement income needs for a retired couple, with an age 65 wage earner and an age 62 spouse. The following compares the 2004 results with the Aon Consulting/Georgia State University 2001 results:

Pre-Retirement Income Level	2001 Replacement Ratio	2004 Replacement Ratio
$20,000	83%	89%
30,000	78	84
40,000	76	80
50,000	74	77
60,000	75	75
70,000	75	76
80,000	75	77
90,000	76	78
150,000	85	85
200,000	86	88
250,000	87	88

Source: Replacement Ratio Study: A Measurement Tool for Retirement Planning.

In 2005, John E. Bartel of Bartel Associates LLC, conducted a replacement ratio study presentation for the League of California Cities that summarized the results of a 2001 California Public Employee Retirement System (CalPERS) target replacement ratio study, summarized the 2004 Aon/Georgia State University replacement ratio study and compared the two for both general California employees and public safety California employees. The CalPERS replacement ratio study indicated a range of ratios (with and without Social Security and public safety), as follows:

Pre-Retirement Income Level	Target Replacement Ratio Range	With Social Security Actual Replacement Ratio Range	Without Social Security Actual Replacement Ratio Range
$ 30,000	73-81%	95-107%	70-81%
40,000	67-75	90-100	68-75
50,000	64-71	86-95	66-71
60,000	61-73	80-89	65-70
70,000	57-65	75-83	64-68
80,000	56-63	70-80	63-67
90,000	55-62	66-78	62-66

The Bartel analysis concludes that for CalPERS plans without Social Security coverage, the actual replacement ratio is a close match to the CalPERS target, but falls below the 2004 Aon/Georgia State University study replacement result for general employees and is a close match for public safety employees, and that for CalPERS plans with Social Security coverage, the actual replacement ratio significantly exceeds the CalPERS target, but is a close match to the 2004 Aon/Georgia State University study replacement result for general employees and greatly exceeds the Aon/Georgia State University study replacement result for public safety employees. The CalPERS study and the Bartel analysis looked only at the Social Security benefit derived from public employment, if any, and the public pension plan coverage, without any benefit derived from personal savings and investments.

Although the replacement ratio approach is simple and is relatively easy to translate into a benefit accrual rate or rates, it is not the only way to measure adequacy at the time of retirement and does not necessarily address the relationship between retirement age benefit adequacy and retirement benefit adequacy needs after retirement.

All of the replacement ratio results summarized above suggest that the target or appropriate ratio differs over the range of compensation, generally with the highest replacement ratio being at the lowest compensation portion of the range, differs based on age, and differs based on marital status. These differences are largely based on features of the Social Security program, which is part of virtually all private sector retirement benefit coverage and which is generally applicable to public sector retirement benefit coverage. Social Security, created in the depths of the Great Depression of the early 1930s, attempted to eliminate old people as the greatest segment of the population in poverty by providing older workers and their spouses with a subsistence income.

While Social Security attempts to provide a subsistence income safety net, the purest rendition of a pre-retirement income replacement ratio represents an attempt to maintain the pre-retirement standard of living. While the Minnesota Legislative Commission on Pensions and Retirement has not specifically articulated its retirement benefit adequacy goal, in practice, the Commission's goal has been to provide a reasonable margin above subsistence that, combined with personal savings or other investments, would allow the retired individual or couple to retain a reasonable standard of living in retirement after completing a normal working career.

The President's Commission on Pension Policy also attempted to provide a sense of the relative role of the three sources of retirement income in providing an adequate benefit in the form of the replacement of pre-retirement disposable income. The three sources of retirement income are Social Security, employee pension coverage, and personal savings and investments. That panel's 1981 report included a chart that attempted to provide a general sense of the relative contribution to an adequate retirement benefit that should be made from the three sources, as follows:

Relative Contribution to an Adequate Retirement Benefit
from Various Sources of Retirement Income

Gross Pre-Retirement Income	Social Security	Employee Pension Plan	Personal Savings and Investments
$15,000	58%	42%	0%
20,000	54	46	0
25,000	54	46	0
30,000	52	44	4
35,000	49	44	7
40,000	46	46	8
45,000	43	47	10
50,000	42	46	12
55,000	40	45	15
60,000	39	41	20

Derived from Chart 7 of Coming of Age: Toward a National Retirement Income Policy, Report of the President's Commission on Pension Policy (1981)

The table reflects the weighting of benefit coverage in favor of the lower compensated employees present in Social Security and reflects a policy decision that personal savings should provide an ever greater proportion of total retirement income at higher compensation levels. The table also reflects an ever-reducing replacement percentage required as gross income increases.

The pre-retirement replacement ratio model of retirement benefit adequacy also has been challenged by commentators based on a more differentiated or nuanced view of income needs during retirement. The replacement ratio model assumes that the need for retirement income is unchanged during retirement, requiring only that the cost of living be replaced or substantially replaced. Some commentators have applied the life cycle hypothesis of consumption levels In 1997, in "Income and Expenditures in Two Phases of Retirement," Flora L. Williams and Helen Zhou reviewed the empirical bases for the "common guideline" of a 70 percent pre-retirement income replacement ratio, finding that there was little empirical evidence to support that guideline, and reviewed consumption pattern surveys for periods ages 45-75 and over, identifying two retirement phases (phase 1: ages 65-74 and phase 2: ages 75 and over) with decidedly different expenditure levels. In 2005, in "Age Bonding: A Model for Planning Retirement Needs," Somnath Basu suggests that expenditure patterns need to be analyzed for the 30-year period that a retiree is likely to receive benefits, looking at each of the three decades, and finds that leisure expenses are initially high and decline over the retirement period, that health care expenses initially rival leisure expenditures and grow significantly over the retirement period, that basic living expenses are initially the greatest portion of expenditures and halve over the retirement period, and that taxes are initially the second greatest expenditure item and remain relatively constant over the retirement period. In 2006, in "Change in Retirement Adequacy, 1995-2001: Accounting for Stages of Retirement," Chen-Chung Chen and Sherman D. Hanna criticize prior retirement adequacy studies has having ignored the complexities of retirement stages and suggest multiple stages, which is any period during retirement when real income is constant.

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February 2, 2009

Laurie Hacking
Executive Director
Minnesota Teachers Retirement Association
60 Empire Drive, Suite 400
St. Paul, MN 55103-4000

Subject: Cost Study – Enhanced Early Retirement Benefits

Dear Laurie:

We estimated the financial effect of a number of changes to the early retirement provisions of the Teachers Retirement Association Fund based on valuation results as of July 1, 2008. The results are described below and summarized in Exhibit I, attached.

Background – Current Benefits

Coordinated members hired on or after July 1, 1989 (Tier II members) are currently entitled to benefits based on a formula multiplier of 1.7% for service prior to July 1, 2006 and 1.9% for service after July 1, 2006 (Level Formula). This benefit is actuarially reduced for retirement prior to Social Security normal retirement age, not to exceed age 66.

Coordinated members hired before July 1, 1989 (Tier I members) are currently entitled to the greater of the following benefits:

1. The Level Formula described above for Tier II members actuarially reduced for commencement prior to age 65; or

2. Benefits based on a formula multiplier of 1.2% (1.4% for years after July 1, 2006) for the first 10 years, 1.7% for each additional year earned prior to July 1, 2006, and 1.9% for each additional year earned after July 1, 2006 (Step Formula). The Step Formula benefits are reduced 3% per year for retirement prior to age 65 (age 62 if 30 years), or unreduced if age plus service totals 90 (Rule of 90).

LCPR FEB 04 2009

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Improved Level Formula Benefits, Unreduced at Age 65 or at Age 62 with 30 Years of Service

In this scenario, Tier II members would be entitled to Level Formula benefits based on a multiplier of 2.1% for service after June 30, 2008, actuarially reduced for retirement prior to age 65, or actuarially reduced from age 62 if 30 years of service have been earned.

Tier I members are entitled to the greater of the benefits determined under current provisions as described above, or Level Formula benefits based on a multiplier of 2.1% for service after June 30, 2008, actuarially reduced from age 65, or from age 62 if 30 years of service have been earned.

Under this proposal, as of July 1, 2008, the actuarial accrued liability would increase by $502,000,000 and the required contribution would increase by 1.8% of pay.

Delayed Implementation

The costs above assume that benefit improvements would be effective immediately. We also considered the actuarial impact of delaying the effective date of the benefit improvements and contribution increases until July 1, 2011. The delay might result in some teachers retiring later than they otherwise would have in order to take advantage of the benefit improvements. While this is certainly a workforce management issue, we do not believe that such changes in retirement behavior would have a material impact on the liabilities or costs stated above.

As of July 1, 2011, the amortization period for payment of the unfunded liability will be shorter (26 years remaining). The cost of amortizing an additional $502,000,000 over 26 years is 0.1% of pay higher than if the amortization period is 29 years. Therefore, if implementation is delayed to July 1, 2011, the benefit improvements would increase the required contribution by 1.9% of pay.

Assumed Retirement Rates

The cost of the proposed benefit improvements will ultimately depend on actual retirement experience. Once 30 years of service are earned, we assumed an increased rate of retirement for Tier II members at ages 60 and 61, and current Rule of 90 retirement rates (50%) at age 62 and later when benefits are unreduced. The retirement rates described above are summarized in Exhibit II, attached.

Results are based on 2008 financial and participant data provided by TRA. All values were determined as of July 1, 2008 using the assumptions, methods, and plan provisions (except as noted) as summarized in the 2008 valuation report dated December 9, 2008. Results are based on a full funding amortization date of June 30, 2037. The actuarial value of assets reflects the deficiency in the Post Fund.

In the above scenarios, benefits for Basic members were unchanged, as were benefits for retired and terminated members. Former Minneapolis Teachers Retirement Fund Association (MTRFA) members were included in our analysis, with the proposed changes affecting active MTRFA Coordinated members only.

We are available to answer any questions on the material contained in the report, or to provide explanations or further details, as may be appropriate. The undersigned credentialed actuaries meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report. In addition, the first undersigned credentialed actuary meets the requirements of "approved actuary" under Minnesota Statutes, Section 356.215, Subdivision 1, Paragraph (c).

Sincerely,

James F. Verlautz, FSA, MAAA

Bonita J. Wurst, ASA, MAAA

Enclosure

Copy: Colin Caes, Julie Thompson, Becky Wegleitner, Sheri Wroblewski – Mercer

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

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Teachers Retirement Association
Exhibit I - Impact of Change in Benefit Multiplier/Early Commencement Factors
(000's)

	Baseline	Study	
	7/1/2008 Valuation	Improved Level Formula (2.1%), Actuarially Reduced from 65, or from 62 if 30 Years	Change from Baseline
Actuarial Accrued Liability	22,231,000	22,733,000	502,000
Actuarial Assets	18,227,000	18,227,000	-
Unfunded AAL	4,004,000	4,506,000	502,000
Funded Percentage	82.0%	80.2%	-1.8%
Total Normal Cost	337,000	378,000	41,000
Payroll	3,846,000	3,846,000	-

Required Contribution - Amortization period of 29 years			
Normal Cost	8.8%	9.8%	1.0%
Amortization of UAAL	6.0%	6.8%	0.8%
Expense Assumption	0.3%	0.3%	0.0%
Total	15.1%	16.9%	1.8%

Required Contribution - Amortization period of 26 years*			
Normal Cost	8.8%	9.8%	1.0%
Amortization of UAAL	6.0%	6.9%	0.9%
Expense Assumption	0.3%	0.3%	0.0%
Total	15.1%	17.0%	1.9%

* Assumes a level percent of pay amortization payment (before benefit improvements)

Teachers Retirement Association

Exhibit II - Assumed Retirement Rates for Plan Study

	Valuation Assumption		Tier II Members Act. Red. from 62 if 30 Years	
Age	Rule-90*	Non-Rule 90	>30 Years	<30 Years
55	50%	9%	9%	9%
56	50%	9%	9%	9%
57	50%	9%	9%	9%
58	50%	9%	9%	9%
59	50%	12%	12%	12%
60	50%	12%	25%	12%
61	50%	20%	25%	20%
62	50%	20%	50%	20%
63	50%	20%	50%	20%
64	50%	20%	50%	20%
65	50%	50%	50%	50%
66	35%	35%	35%	35%
67	35%	35%	35%	35%
68	35%	35%	35%	35%
69	35%	35%	35%	35%
70	35%	35%	35%	35%
71+	100%	100%	100%	100%

* Tier I Employees Only

_________________________ moves that the Legislative Commission on Pensions and Retirement approve the following retirement rates for the Teachers Retirement Association (TRA), effective for actuarial valuations prepared on or after July 1, 2009:

	Valuation Assumption		**Tier II Members Act. Red. From 62 if 30 Years**	
Age	**Rule of 90***	**Non Rule of 90**	**> 30 Years**	**< 30 Years**
55	50%	9%	9%	9%
56	50%	9%	9%	9%
57	50%	9%	9%	9%
58	50%	9%	9%	9%
59	50%	12%	12%	12%
60	50%	12%	25%	12%
61	50%	20%	25%	20%
62	50%	20%	50%	20%
63	50%	20%	50%	20%
64	50%	20%	50%	20%
65	50%	50%	50%	50%
66	35%	35%	35%	35%
67	35%	35%	35%	35%
68	35%	35%	35%	35%
69	35%	35%	35%	35%
70	35%	35%	35%	35%
71+	100%	100%	100%	100%

* Tier I Employees Only