SEGAL

THE SEGAL COMPANY
6300 S. Syracuse Way Suite 750 Englewood, CO 80111-7302
T 303.714.9900 F 303.714.9990 www.segalco.com

DIRECT DIAL NUMBER
303-714-9936

E-MAIL ADDRESS
lthompson@segalco.com

March 17, 2006

Minnesota Legislative Commission
On Pensions and Retirement
55 State Office Building ,
St. Paul, Minnesota 55155-1201

Attention: Mr. Lawrence A. Martin

Commission Members:

We have completed the July 1, 2005 actuarial valuations. This report summarizes the results of these actuarial valuations. This report covers commentary on the 2005-2006 funding levels, as well as summaries of significant plan changes and actuarial assumptions used.

I, Leslie Thompson, am an actuary for The Segal Company. I am a member of the American Academy of Actuaries and meet the qualification standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

I hope that you will find this summary report informative as a supplement to the more detailed reports for each of the funds.

Respectfully submitted,

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

144970/05776.046

State of Minnesota

Summary of 2005 Actuarial Valuations

TABLE OF CONTENTS

APPENDICES

I. 2005-2006 Funding Levels (Tables I-A, I-B, and I-C)

We have determined the actuarial funding requirements in accordance with the requirements of Section 356.215, Minnesota Statutes, for each of the Funds covered by those statutes. Each employer contributes to their respective Fund on the basis of statutory requirements set by statutes for the individual Fund.

In Table I-A, we provide a detailed comparison of the requirements under Section 356.215 and the statutory employer contribution. It is this comparison which allows an analysis of the Fund's ability to meet its long-term commitments. Table I-B provides a four-year history of the sufficiency determination. The pattern of these results gives a more complete picture of emerging concerns as to the adequacy of statutory requirements.

Another measure of funding adequacy is the ratio of plan assets to the present value of accrued benefits. These ratios are summarized for the last four valuations in Table I-C. Since this is more of a termination measure of adequacy, it is generally considered a less important measure for public plans than the sufficiency determination summarized in Tables I-A and I-B. Nonetheless, it does give a somewhat different and useful perspective when viewed in conjunction with other factors. If proper funding progress is made, these numbers should move toward a ratio of slightly over 100%.

Tables I-A, I-B, and I-C have been prepared based on the applicable Minnesota Statutes and the Actuarial Standards that have been adopted by the Legislative Commission.

Below we comment on our analysis of the actuarial valuations.

PERA

1. The Public Employees plan experienced a modest decline in the deficiency measure primarily due to the asset losses in fiscal years 2002 and 2003 that were recognized this year. This plan continues to show a substantial deficiency as statutory contribution rates are significantly lower than required contributions. Further corrective action by the legislature may be needed to deal with this deficit situation.

2. The Police and Fire plan shows a significant deficiency measure. Moreover, statutory contributions are substantially below ongoing normal costs. Corrective action by the legislature may be needed to deal with this deficit situation.

3. The Local Government Correctional plan is a new plan that was first effective July 1, 1999. The modest sufficiency is due mainly to the relatively low normal cost rate as new employees enter the plan.

MSRS

4. The General plan experienced a decline in the deficiency measure primarily due to an increase in the unfunded actuarial accrued liability. Since statutory contributions are below ongoing normal costs, it may be prudent to consider increases in statutory contribution rates.

5. The decrease in the deficiency measure in the Correctional plan was primarily due to the asset losses in fiscal years 2002 and 2003 that were recognized this year. Since statutory contributions are below ongoing normal costs, it may be prudent to consider increases in statutory contribution rates.

6. The State Patrol plan experienced a decrease in the sufficiency measure. Since statutory contributions are below ongoing normal costs, the sufficiency measure should be monitored in the future to determine whether or not it is prudent to consider an increase in the statutory contribution rates.

7. The Judges plan experienced an increase in the deficiency measure from last year. The plan's funded ratios increased over the prior year.

8. The Legislators plan is funded on a terminal funding basis. This funding basis means that the State (as employer) does not pre-fund for benefits earned while service is being performed. Rather, at the time of retirement of one of these participants, the State must fund that portion of the retirement benefit not covered by member contributions

9. The Elective State Officers plan is handled on a pay-as-you-go basis. This funding basis means there is no accumulated funding (other than Member contributions held by the State's general fund). Actual retirement benefits are paid from the general funds via direct disbursements to the retirees (or beneficiaries). There are no longer any active employees in this plan.

TEACHERS

10. The Minnesota TRA fund showed a modest decline in the sufficiency measure is due primarily to investment experience. Statutory contributions are currently sufficient to meet the actuarially required contributions.

11. The Duluth Teachers plan showed a decline in funding ratios and funding status. Recognition of deferred asset losses contributed to the decreases in the measures of funded status of the plan.

12. The St. Paul Teachers plan showed deterioration in funding ratios and funding status primarily due to recognition of deferred asset losses. The continued decline in the deficiency measure is contingent, of course, on the current level of State supplemental contributions. We note that the statutory contributions exceed the ongoing normal costs. Consequently, the deficiency is the result of the plan's unfunded actuarial accrued liability.

13. Significant asset losses in the Minneapolis Teachers plan let to further deterioration in all funding ratios and another substantial decrease in the deficiency percentage. As of July 1, 2005, the annuitant liability significantly exceeds the actuarial value of assets. Absent significant State supplemental contributions, this plan would be even more substantially deficient. The deficiency percentage can be expected to grow; **legislative attention is urgently needed.**

MERF

14. The Minneapolis Employees Retirement Fund had an actuarial asset loss and liability losses in the 2004-2005 year. We note that a significant source of the liability losses continues to come from retirement earlier than anticipated by the current actuarial assumptions. As the active membership of this Plan shrinks, the impact of this source of liability loss is likely to become greater as a percentage of active payroll. The State's portion of the supplemental contribution reached its statutory maximum this year. Meanwhile, required contribution rates for contributing employers increased by approximately 3.3% of pay.

Plans for which statutory contribution increases should be considered are St. Paul Teachers, MSRS General, MSRS Correctional, PERA, and PERA Police and Fire. Minneapolis Teachers needs immediate legislative attention.

The Minneapolis Teachers funding problem is severe and compounded by several factors that ensure that their deficiency measurement will worsen even further in the years to come:

- Current statutory rates being less than required mean that the unfunded actuarial liability is expected to increase.

- Since the current amortization requirement is to a fixed date, this increased amount, funded over a shorter period, will create significantly higher amortization requirements.

- For the most part, the Supplemental Contributions of the 1993, 1996 and 1997 legislative packages are fixed amounts; these amounts will provide a decreasing percentage when expressed as a percent of payroll.

- The mechanics of the post-retirement increase calculation have a built-in bias to contribute a loss to the plan. When the investment return average exceeds 8.5%, retirees get full credit (or nearly full credit) for excess earnings even though the plan is only 45% funded on an accrued liability basis. When the investment return average is less than 8.5%, the retirees get nothing in that year, but the deficiency from the 8.5% may never be recovered.

The combination of all of these factors creates a dim picture for this fund. Without early and substantial corrective legislation, this fund may face the very real possibility of running out of assets before satisfying its liabilities.

TABLE I-A: 2005-2006 FUNDING LEVELS (PERCENTAGES)

Section 356.215 Requirements

Fund	Normal Cost	Supple-mental Cost	Expense	Total
Public Employees (Chapter 353)	7.79%	4.73%	0.22%	12.74%
Police and Fire (Chapter 353)	22.28%	1.84%	0.12%	24.24%
Local Correctional (Chapter 353E)	12.31%	0.59%	0.15%	13.05%
General (Chapter 352)	8.79%	1.55%	0.21%	10.55%
State Patrol (Chapter 352B)	23.03%	- 3.36%	0.17%	19.84%
Correctional (Chapter 352)	15.01%	2.50%	0.20%	17.71%
Judges (Chapter 490)	17.71%	11.33%	0.10%	29.14%
Teachers (Chapter 354)	8.02%	0.69%	0.34%	9.05%
Duluth Teachers (Chapter 354A)	9.05%	4.33%	0.78%	14.16%
St. Paul Teachers (Chapter 354A)	9.24%	14.30%	0.24%	23.78%
Minneapolis Teachers (Chapter 354A)	9.50%	36.50%	0.29%	46.29%
Minneapolis Employees (Chapter 422A)	18.28%	53.15%	3.64%	75.07%

Statutory Requirements

Fund	Employee	Employer	Total	Sufficiency/ (Deficiency)
Public Employees (Chapter 353)	5.30%	5.77%	11.07%	- 1.67%
Police and Fire (Chapter 353)	6.60%	9.90%	16.50%	- 7.74%
Local Correctional (Chapter 353E)	5.83%	8.75%	14.58%	1.53%
General (Chapter 352)	4.00%	4.00%	8.00%	- 2.55%
State Patrol (Chapter 352B)	8.40%	12.60%	21.00%	1.16%
Correctional (Chapter 352)	5.69%	7.98%	13.67%	- 4.04%
Judges (Chapter 490)	8.00%*	20.50%	28.17%	- 0.97%
Teachers (Chapter 354)	5.00%	5.00%	10.00%	0.95%
Duluth Teachers (Chapter 354A)	5.50%	5.79%	11.29%	- 2.87%
St. Paul Teachers (Chapter 354A)	5.73%	10.76%	16.49%	- 7.29%
Minneapolis Teachers (Chapter 354A)	5.74%	17.25%	22.99%	- 23.30%
Minneapolis Employees (Chapter 422A)	9.75%	65.32%	75.07%	0.00%

** Percent of participating employee payroll*

TABLE I-B: PATTERN OF SUFFICIENCY/DEFICIENCY: 2002-2005

Actuarial Requirements

Fund	2002	2003	2004	2005
Public Employees	11.23%	11.89%	12.24%	12.74%
Police and Fire	13.08%	19.52%	22.05%	24.24%
Local Correctional	14.09%	14.13%	13.00%	13.05%
General	8.34%	9.43%	9.33%	10.55%
State Patrol	14.34%	17.81%	18.15%	19.84%
Correctional	14.73%	15.83%	17.48%	17.71%
Judges	26.82%	26.73%	29.42%	29.14%
Teachers	7.57%	8.37%	8.46%	9.05%
Duluth Teachers	9.85%	11.27%	12.11%	14.16%
St. Paul Teachers	18.56%	20.36%	21.59%	23.78%
Minneapolis Teachers	29.05%	31.96%	38.11%	46.29%
Minneapolis Employees	46.64%	52.49%	63.92%	75.07%

Statutory Requirements

Fund	2002	2003	2004	2005
Public Employees	10.66%	10.65%	10.64%	11.07%
Police and Fire	15.50%	15.50%	15.50%	16.50%
Local Correctional	14.58%	14.58%	14.58%	14.58%
General	8.00%	8.00%	8.00%	8.00%
State Patrol	21.00%	21.00%	21.00%	21.00%
Correctional	13.67%	13.67%	13.67%	13.67%
Judges	28.50%	28.42%	28.04%	28.17%
Teachers	10.00%	10.00%	10.00%	10.00%
Duluth Teachers	11.29%	11.29%	11.29%	11.29%
St. Paul Teachers	17.06%	16.90%	16.62%	16.49%
Minneapolis Teachers	22.53%	22.49%	22.87%	22.99%
Minneapolis Employees	46.63%	52.50%	63.91%	75.07%

Sufficiency/(Deficiency)

Fund	2002	2003	2004	2005
Public Employees	- 0.57%	- 1.24%	- 1.60%	- 1.67%
Police and Fire	2.42%	- 4.02%	- 6.55%	- 7.74%
Local Correctional	0.49%	0.45%	1.58%	1.53%
General	- 0.34%	- 1.43%	- 1.33%	- 2.55%
State Patrol	6.66%	3.19%	2.85%	1.16%
Correctional	- 1.06%	- 2.16%	- 3.81%	- 4.04%
Judges	1.68%	1.69%	- 1.38%	- 0.97%
Teachers	2.43%	1.63%	1.54%	0.95%
Duluth Teachers	1.44%	0.02%	- 0.82%	- 2.87%
St. Paul Teachers	- 1.50%	- 3.46%	-4.97%	-7.29%
Minneapolis Teachers	- 6.52%	- 9.47%	- 15.24%	- 23.30%
Minneapolis Employees	- 0.01%	0.01%	- 0.01%	0.00%

TABLE I-C: ACCRUED BENEFIT FUNDING RATIOS: 2002-2005

Current Assets

Fund	2002	2003	2004	2005
Public Employees	$11,017,000,000	$11,196,000,000	$11,477,960,861	$11,843,935,692
Police and Fire	$4,707,000,000	$4,714,000,000	$4,746,834,494	$4,814,961,076
Local Correctional	$40,000,000	$56,000,000	$75,918,151	$98,155,975
General	$7,673,000,000	$7,757,000,000	$7,884,984,028	$8,081,736,374
State Patrol	$591,000,000	$592,000,000	$594,785,274	$601,220,181
Correctional	$457,000,000	$471,000,000	$486,617,032	$503,573,272
Judges	$131,000,000	$134,000,000	$138,948,244	$144,465,380
Teachers	$17,379,000,000	$17,384,000,000	$17,519,909,350	$17,752,917,313
Duluth Teachers	$281,000,000	$278,000,000	$276,949,052	$268,480,821
St. Paul Teachers	$900,000,000	$899,000,000	$898,859,732	$905,292,514
Minneapolis Teachers	$1,028,000,000	$957,000,000	$877,763,977	$783,354,138
Minneapolis Employees	$1,540,000,000	$1,519,000,000	$1,513,388,863	$1,489,713,085

Present Value of Accrued Benefit

Fund	2002	2003	2004	2005
Public Employees	$12,107,000,000	$12,878,000,000	$13,955,493,543	$14,857,712,393
Police and Fire	$3,738,000,000	$4,243,000,000	$4,546,939,738	$4,801,003,844
Local Correctional	$40,000,000	$58,000,000	$77,151,845	$98,278,594
General	$6,880,000,000	$7,354,000,000	$7,746,988,644	$8,117,596,957
State Patrol	$497,000,000	$524,000,000	$534,169,211	$555,957,356
Correctional	$409,000,000	$446,000,000	$482,144,107	$502,823,402
Judges	$165,000,000	$168,000,000	$181,571,180	$182,693,636
Teachers	$15,715,000,000	$16,104,000,000	$16,721,495,421	$17,184,241,402
Duluth Teachers	$268,000,000	$279,000,000	$289,460,171	$298,956,352
St. Paul Teachers	$1,090,000,000	$1,138,000,000	$1,200,070,893	$1,248,867,191
Minneapolis Teachers	$1,610,000,000	$1,623,000,000	$1,673,999,414	$1,701,068,129
Minneapolis Employees	$1,648,000,000	$1,630,000,000	$1,632,666,921	$1,585,479,769

Accrued Benefit Funding Ratio

Fund	2002	2003	2004	2005
Public Employees	91.00%	86.94%	82.25%	79.72%
Police and Fire	125.94%	111.10%	104.40%	100.29%
Local Correctional	101.05%	96.96%	98.40%	99.88%
General	111.52%	105.49%	101.78%	99.56%
State Patrol	119.01%	112.91%	111.35%	108.14%
Correctional	111.73%	105.62%	100.93%	100.15%
Judges	79.85%	79.67%	76.53%	79.08%
Teachers	110.59%	107.95%	104.77%	103.31%
Duluth Teachers	104.59%	99.65%	95.68%	89.81%
St. Paul Teachers	82.55%	79.00%	74.90%	72.49%
Minneapolis Teachers	63.86%	58.97%	52.44%	46.05%
Minneapolis Employees	93.44%	93.22%	92.69%	93.96%

II. Plan Provisions

This section of our summary presents a brief summary of those changes made to the statutes since last year's report that had an impact on the actuarial funding. This section is not designed to provide a comprehensive summary of all changes that were made. For a more detailed description of the plan provisions, please refer to the individual report for each Fund.

For the July 1, 2005 Actuarial Valuation, we highlight the following:

Public Employees (Chapter 353): None.

Police and Fire (Chapter 353): None.

Local Government Correctional Service (Chapter 353E): None.

General (Chapter 352): None.

State Patrol (Chapter 352B): None.

Correctional Employees (Chapter 352): None.

Legislators (Chapter 3A): None.

Elective State Officers (Chapter 352C): None.

Judges (Chapter 490): None.

Teachers Retirement Association (Chapter 354): None.

Duluth Teachers (Chapter 354A): None.

St. Paul Teachers (Chapter 354A): None.

Minneapolis Teachers (Chapter 354A): None.

Minneapolis Employees (Chapter 422A): None.

III. Actuarial Assumptions and Methods

(Tables III-A, III-B and III-C)

In projecting costs to be incurred by a pension plan in future years, it is necessary to provide actuarial assumptions relating to the future events which trigger those costs. To provide for all significant events, a wide range of assumptions must be utilized. These assumptions may be classified into three different categories.

Table III-A involves the economic assumptions. These assumptions include assumed investment return, salary increases, social security increases and cost-of-living increases on plan benefits. These assumptions are characterized as economic because they generally tend to be affected by interrelated factors that also affect economic growth.

Table III-B relates to assumptions which affect the expected working lifetime (and retired lifetime) of a member. These assumptions include mortality rates, disability rates and rates of separation due to other causes. Within a particular group classification (such as teachers or police officers), year-to-year mortality and disability rates may be reasonably represented by standard published tables. Separation due to other causes may vary considerably and should be reviewed and monitored on an individual group basis. In particular, where a subsidized benefit exists (such as for early retirement), extra care must be provided with respect to the rate of separation which is assumed to occur (such as the rate of early retirement).

Table III-C relates to miscellaneous assumptions which are needed to accommodate special plan provisions which are not adequately covered in the first two categories. These would include (but are not limited to) items such as assumed family composition, plan expenses, election of specific benefit forms, etc. These assumptions need to be monitored so that they remain consistent with current plan provisions and experience.

In Tables III-A, III-B and III-C, we have prepared a summary of some of the assumptions being used for each plan in all three categories. For a comprehensive review of assumptions being used for a particular plan, please refer to the actuarial valuation report.

In our opinion, the assumptions used for July 1, 2005 valuations are reasonable and in accordance with generally accepted actuarial principles and practices.

Actuarial Methods

Asset Valuation Method

Effective with the July 1, 2000 actuarial valuation, Minnesota Statutes require that the asset value used for actuarial purposes spread differences between actual return (measured on a market-value basis) and expected return on non-MPRIF (non-RBF assets for MERF) assets over five years. An Asset Valuation Method requirement exists because market values (which include all unrealized gains and losses) are typically volatile and can produce erratic changes in the contribution requirements from year to year.

The calculation of the Actuarial Value of Assets for each fund is determined as:

Market Value of Assets at June 30, 2005; *less*

80% of the current year Unrecognized Asset Return at July 1, 2005 (the difference between actual net return on Market Value of Assets between June 30, 2004 and June 30, 2005 and the asset return expected during that period based on the assumed interest rate employed in the July 1, 2004 Actuarial Valuation); *less*

60% of the current year Unrecognized Asset Return at July 1, 2004 (the difference between actual net return on Market Value of Assets between June 30, 2003 and June 30, 2004 and the asset return expected during that period based on the assumed interest rate employed in the July 1, 2003 Actuarial Valuation); *less*

40% of the current year Unrecognized Asset Return at July 1, 2003 (the difference between actual net return on Market Value of Assets between June 30, 2002 and June 30, 2003 and the asset return expected during that period based on the assumed interest rate employed in the July 1, 2002 Actuarial Valuation); *less*

20% of the current year Unrecognized Asset Return at July 1, 2002 (the difference between actual net return on Market Value of Assets between June 30, 2001 and June 30, 2002 and the asset return expected during that period based on the assumed interest rate employed in the July 1, 2001 Actuarial Valuation).

The term "Actuarial Value of Assets" is used to indicate that the value was determined for use in the actuarial valuations. Minnesota Statutes refer to this value as "Current Assets."

Payment on the Unfunded Actuarial Accrued Liability

Effective with the July 1, 2000 actuarial valuations, if the Current assets exceed the Actuarial Accrued Liability for any fund, the surplus amount shall be amortized over 30 years as a level percentage of payroll.

TABLE III-A: JULY 1, 2005 ACTUARIAL ASSUMPTIONS – ECONOMIC ASSUMPTIONS

Fund	Interest Rates Pre-retire/Post-retire	Salary Increase %/ Data Used	Social Security	COLA on Benefits
Public Employees (Chapter 353)	8.5%/6.0%	(2)/Prior Year Salary Increased	N/A	2.5% Implied by 6.0% Interest Rate
Police and Fire (Chapter 353)	8.5%/6.0%	(1)/Prior Year Salary Increased	N/A	2.5% Implied by 6.0% Interest Rate
Local Government Correctional Service (Chapter 353E)	8.5%/6.0%	(1)/Prior Year Salary Increased	Current Law and 6.0% Salary Scale	2.5% Implied by 6.0% Interest Rate
General (Chapter 352)	8.5%/6.0%	(2)/Prior Year Salary Increased	N/A	2.5% Implied by 6.0% Interest Rate
State Patrol (Chapter 352B)	8.5%/6.0%	(1)/Prior Year Salary Increased	N/A	2.5% Implied by 6.0% Interest Rate
Correctional (Chapter 352)	8.5%/6.0%	(1)/Prior Year Salary Increased	Current Law and 6.0% Salary Scale	2.5% Implied by 6.0% Interest Rate
Judges (Chapter 490)	8.5%/6.0%	Statutory Salary, Then 5.0%	N/A	2.5% Implied by 6.0% Interest Rate
Teachers (Chapter 354)	8.5%/6.0%	(2)/Prior Year Salary Increased	N/A	2.5% Implied by 6.0% Interest Rate
Duluth Teachers (Chapter 354A)	8.5%/6.5%	(2)/Reported Salary Increased	N/A	2.0% Implied by 6.5% Interest Rate
St. Paul Teachers (Chapter 354A)	8.5%/8.5%	(2)/Reported Salary Increased	N/A	2.0% Per Annum
Minneapolis Teachers (Chapter 354A)	8.5%/6.5%	(2)/Reported Salary Increased	N/A	2.0% Implied by 6.5% Interest Rate
Minneapolis Employees (Chapter 422A)	6.0%/5.0%	4.0%/Reported Pay Increased 1.0198%	N/A	1.0% Implied by 5.0% Interest Rate

(1) *Graded rates using a 5.0% base increase plus a merit scale.*
(2) *Select and ultimate rates using a 5.0% base increase plus a merit scale plus a 10-year select period.*

TABLE III-B: JULY 1, 2005 ACTUARIAL ASSUMPTIONS – DEMOGRAPHICS

Fund	Pre-retirement Mortality Table (male rates shown)	Disability Table (male rates shown)	Retirement Age (Coordinated)	Other Separation (male rates shown)
Public Employees (Chapter 353)	1983 GAM Male set back 8 years	Graded: 0.05% @ 35 0.49% @ 55	Graded from age 55 and separate graded rates for Rule of 90	Select and ultimate graded
Police and Fire (Chapter 353)	1983 GAM Male set back 6 years	Graded: 0.19% @ 35 2.03% @ 55	Graded from age 50	Select and ultimate graded
Local Government Correctional Service (Chapter 353E)	1983 GAM Male set back 1 year	Graded: 0.11% @ 35 0.88% @ 55	Graded from age 50	Graded: 6.00% @ 35 1.40% @ 55
General (Chapter 352)	1983 GAM Male set back 5 years	Graded: 0.03% @ 35 0.42% @ 55	Graded from age 55 and separate graded rates for Rule of 90	Select and ultimate graded
State Patrol (Chapter 352B)	1983 GAM Male set back 1 year	Graded: 0.11% @ 35 0.88% @ 55	Graded from age 50	Graded: 0.70% @ 35 0.00% @ 55
Correctional (Chapter 352)	1983 GAM Male set back 1 year	Graded: 0.11% @ 35 0.88% @ 55	Graded from age 50	Graded: 6.00% @ 35 1.40% @ 55
Judges (Chapter 490)	1983 GAM Male set back 4 years	Graded: 0.02% @ 35 0.34% @ 55	Graded from age 62	None
Teachers (Chapter 354)	1983 GAM Male set back 12 years	Graded: 0.01% @ 35 0.22% @ 55	Graded from age 55 and separate graded rates for Rule of 90	Select and ultimate graded
Duluth Teachers (Chapter 354A)	1983 GAM Male set back 10 years	Graded: 0.01% @ 35 0.15% @ 55	Graded from age 55 40% under Rule of 90	Select and ultimate graded
St. Paul Teachers (Chapter 354A)	1983 GAM Male set back 7 years	Graded: 0.03% @ 35 0.24% @ 55	Graded from age 55 and separate graded rates for Rule of 90	Select and ultimate graded
Minneapolis Teachers (Chapter 354A)	1983 GAM Male set back 12 years	Graded: 0.01% @ 35 0.15% @ 55	Graded from age 55 and separate graded rates for Rule of 90	Select and ultimate graded
Minneapolis Employees (Chapter 422A)	1986 Projected Exp. Table set back 1 year	Graded: 0.30% @ 35 1.60% @ 55	Age 61	Graded: 1.50% @ 35 1.00% @ 55

TABLE III-C: JULY 1, 2005 ACTUARIAL ASSUMPTIONS – OTHER

Fund	Family Composition (Male/Female)	Expenses (Admin. Only)	Bounceback Annuity Election (Male/Female)	Other
Public Employees (Chapter 353)	85%/65% married; no children	Prior year as % of payroll	10%/ 5% for 25% J&S 20%/ 5% for 50% J&S 10%/ 5% for 75% J&S 30%/15% for 100% J&S	0.8%/60% load on liabilities for Members/former Members for Combined Service Annuities
Police and Fire (Chapter 353)	85%/65% married; no children	Prior year as % of payroll	40%/15% for 50% J&S 45%/15% for 100% J&S	0%/30% load on liabilities for Members/former Members for Combined Service Annuities
Local Government Correctional Service (Chapter 353E)	85%/85% married	Prior year as % of payroll	25%/ 5% for 50% J&S 25%/ 5% for 100% J&S	0%/30% load on liabilities for Members/former Members for Combined Service Annuities
General (Chapter 352)	85%/85% married	Prior year as % of payroll	20%/10% for 50% J&S 50%/15% for 100% J&S	1.2%/40% load on liabilities for Members/former Members for Combined Service Annuities
State Patrol (Chapter 352B)	100%/100% married; two children	Prior year as % of payroll	25%/ 5% for 50% J&S 25%/ 5% for 100% J&S	0%/30% load on liabilities for Members/former Members for Combined Service Annuities
Correctional (Chapter 352)	85%/85% married	Prior year as % of payroll	25%/ 5% for 50% J&S 25%/ 5% for 100% J&S	0%/30% load on liabilities for Members/former Members for Combined Service Annuities
Judges (Chapter 490)	Actual data	Prior year as % of payroll	None	No refunds 0%/30% load on liabilities for Members/former Members for Combined Service Annuities

TABLE III-C: JULY 1, 2005 ACTUARIAL ASSUMPTIONS – OTHER

Fund	Family Composition (Male/Female)	Expenses (Admin. Only)	Bounceback Annuity Election (Male/Female)	Other
Teachers (Chapter 354)	85%/65% married; no children	Prior year as % of payroll	15%/20% for 50% J&S 25%/10% for 75% J&S 55%/30% for 100% J&S	1.4%/4% load on liabilities for Members/former Members for Combined Service Annuities
Duluth Teachers (Chapter 354A)	80%/80% married	Prior year as % of payroll	35%/25% for 50% J&S 55%/25% for 100% J&S	10%/10% load on liabilities for Members/former Members for Combined Service Annuities
St. Paul Teachers (Chapter 354A)	85%/60% married; two children	Prior year as % of payroll	10%/10% for 50% J&S 45%/10% for 100% J&S	Benefit increase = (5 yr. return – 8.5%) x (1 – contribution deficiency) 7.0%/30% load on liabilities for Members/former Members for Combined Service Annuities
Minneapolis Teachers (Chapter 354A)	80%/60% married	Prior year as % of payroll	15%/15% for 50% J&S 20%/ 5% for 75% J&S 40%/15% for 100% J&S	Benefit increase = (5 yr. return – 8.50%) x (1 – contribution deficiency) 4.0%/30% load on liabilities for Members/former Members for Combined Service Annuities
Minneapolis Employees (Chapter 422A)	67%/67% married	Prior year increased by 4% as % of payroll	None	Investment expense amortized to a required date 0.2%/30% load on liabilities for Members/former Members for Combined Service Annuities

APPENDIX A: ALTERNATIVE ANALYSIS OF FUNDED RATIOS

Table A-1

June 30, 2005 – Relationship of Current Assets to Market Value of Assets

	Current * Assets	Market Value	Ratio
Plans With Segregated Post-Funds			
PERA – General	$11,843,935,692	$11,901,282,333	100%
PERA – Police and Fire	$4,814,961,076	$4,820,781,271	100%
PERA – Local Correctional	$98,155,975	$100,874,878	97%
MSRS – General	$8,081,736,374	$8,104,122,684	100%
MSRS – State Patrol	$601,220,181	$600,428,179	100%
MSRS – Correctional	$503,573,272	$503,806,699	100%
MSRS – Judges	$144,465,380	$144,182,259	100%
TRA	$17,752,917,313	$17,806,012,464	100%
MERF	$1,489,713,085	$1,482,314,546	100%
Plans Without Segregated Post-Funds			
DTRFA	$268,480,821	$267,383,556	100%
MTRFA	$783,354,138	$745,214,858	105%
StPTRFA	$905,292,514	$934,667,364	97%

** Actuarial value of assets.*

APPENDIX A: ALTERNATIVE ANALYSIS OF FUNDED RATIOS

Table A-2

Deferred Asset Gains and Losses That Will Be Recognized as of July 1, 2006

Plans With Segregated Post-Funds	
PERA – General	- $107,081,124
PERA – Police and Fire	- $69,092,506
PERA – Local Correctional	- $102,186
MSRS – General	- $106,204,943
MSRS – State Patrol	- $6,836,883
MSRS – Correctional	- $6,838,074
MSRS – Judges	- $900,490
TRA	- $174,432,353
MERF	- $8,479,985
Plans Without Segregated Post-Funds	
DTRFA	- $7,102,375
MTRFA	- $41,084,376
StPTRFA	- $8,542,984

APPENDIX A: ALTERNATIVE ANALYSIS OF FUNDED RATIOS

Table A-3

July 1, 2005 – Actuarial Accrued Liability Funding Ratios

	Current Asset Basis	Market Value Basis
Plans With Segregated Post-Funds		
PERA – General	74.53%	74.89%
PERA – Police and Fire	97.15%	97.26%
PERA – Local Correctional	90.11%	92.61%
MSRS – General	95.58%	95.85%
MSRS – State Patrol	106.08%	105.94%
MSRS – Correctional	92.21%	92.25%
MSRS – Judges	75.47%	75.32%
TRA	98.51%	98.80%
MERF	91.71%	91.26%
Plans Without Segregated Post-Funds		
DTRFA	86.35%	86.00%
MTRFA	44.61%	42.44%
StPTRFA	69.65%	71.91%

APPENDIX A: ALTERNATIVE ANALYSIS OF FUNDED RATIOS

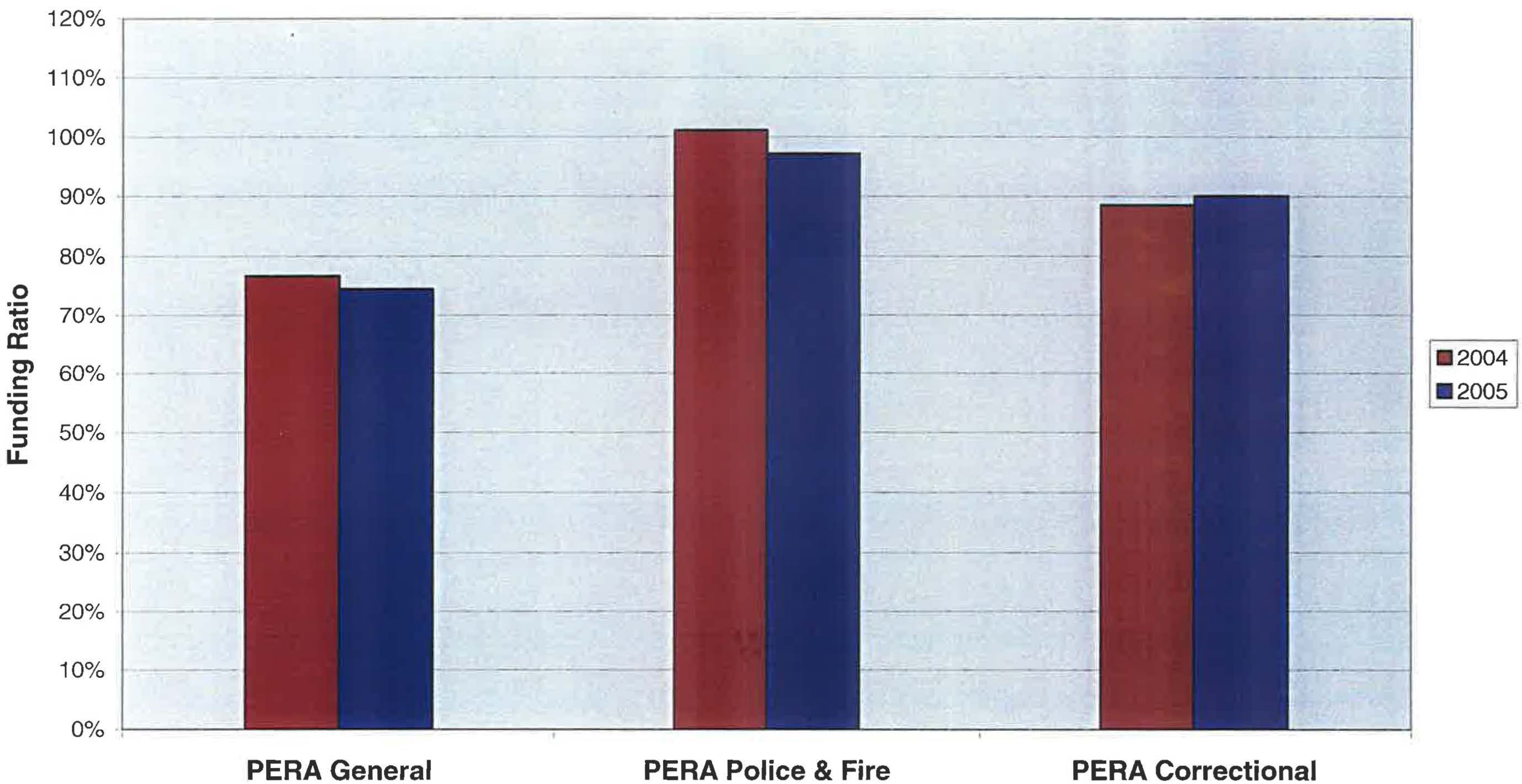
Table A-4

2005-06 Contribution Sufficiency/(Deficiency) Measure

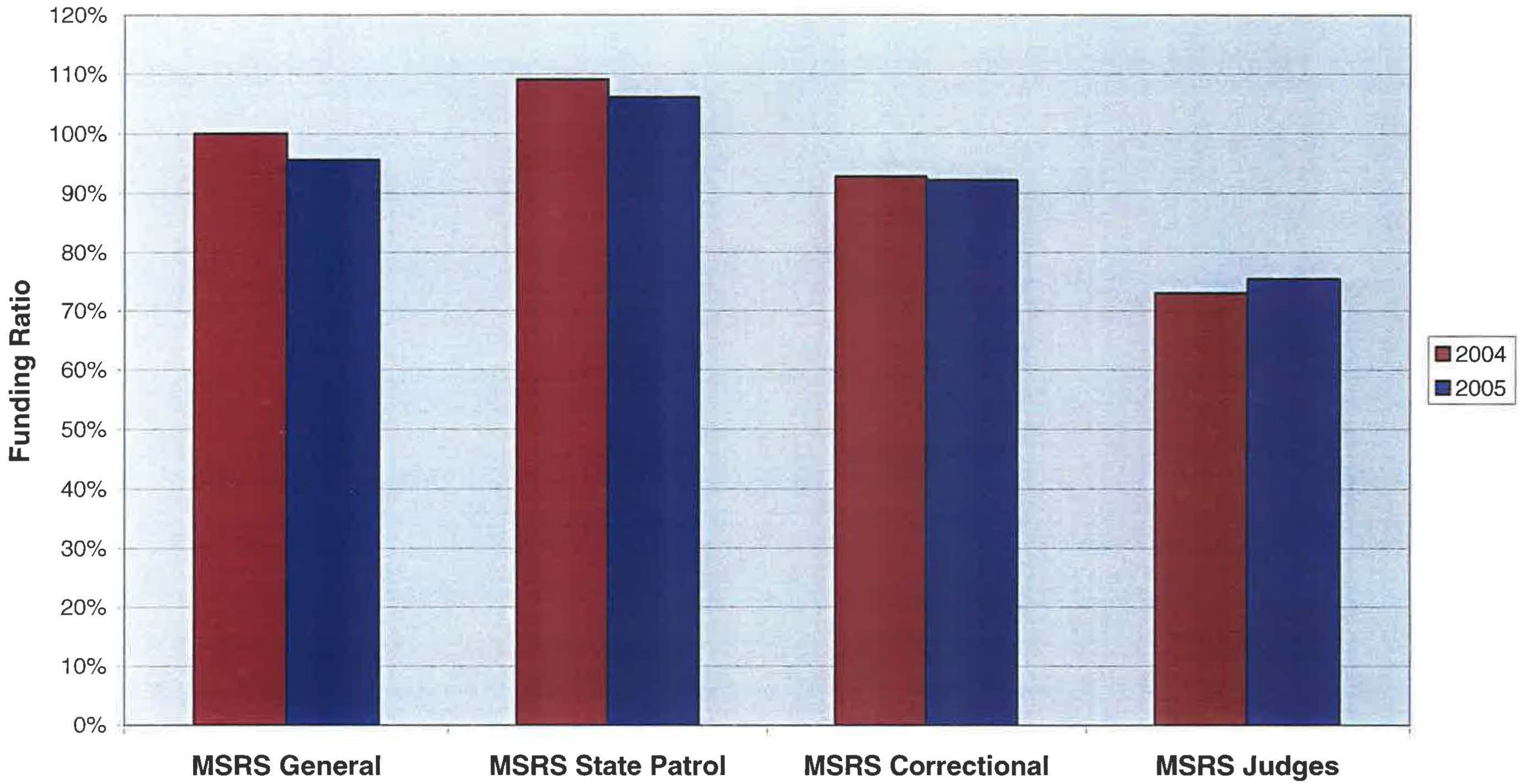
	Current Asset Basis	Market Value Basis
Plans With Segregated Post-Funds		
PERA – General	- 1.67%	- 1.61%
PERA – Police and Fire	- 7.74%	- 7.67%
PERA – Local Correctional	1.53%	1.68%
MSRS – General	-2.55%	- 2.46%
MSRS – State Patrol	1.16%	1.09%
MSRS – Correctional	-4.04%	- 4.03%
MSRS – Judges	-0.97%	- 1.04%
TRA	0.95%	1.09%
MERF	0.00%	- 2.86%
Plans Without Segregated Post-Funds		
DTRFA	- 2.87%	- 2.98%
MTRFA	- 23.30%	- 24.73%
StPTRFA	- 7.29%	- 6.22%

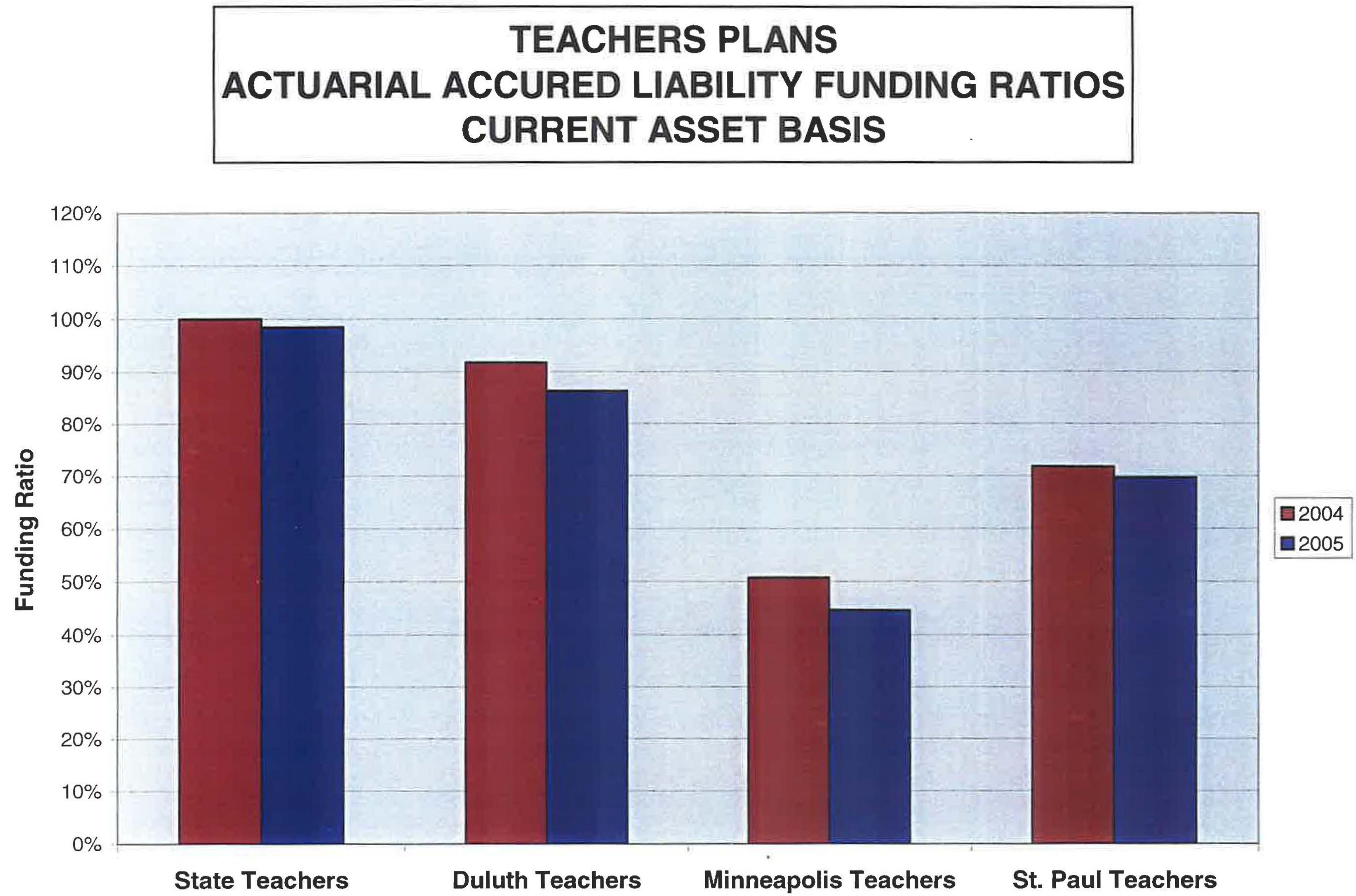
APPENDIX B: SUMMARY CHARTS OF LIABILITY FUNDING RATIOS

PERA
ACTUARIAL ACCRUED LIABILITY FUNDING RATIOS
CURRENT ASSET BASIS



MSRS
ACTUARIAL ACCRUED LIABILITY FUNDING RATIOS
CURRENT ASSET BASIS




TEACHERS PLANS
ACTUARIAL ACCURED LIABILITY FUNDING RATIOS
CURRENT ASSET BASIS
120%
110%
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Funding Ratio
2004
2005
State Teachers
Duluth Teachers
Minneapolis Teachers
St. Paul Teachers