State of Minnesota

Summary of 2002 Valuations

A MILLIMAN GLOBAL FIRM

Milliman USA

Consultants and Actuaries

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January 20, 2003

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 all of the July 1, 2002 Actuarial Valuations pursuant to the terms of our Actuarial Services Contract. This report summarizes the results of these actuarial valuations, with particular emphasis on changes occurring since the prior year's actuarial valuations.

This report covers commentary on the 2002-2003 funding levels, as well as summaries of significant plan changes and actuarial assumptions used. The analysis of purchased service credits, required by Minnesota Statutes Chapter 390, Article 4, is included as Table I-E.

Supplemental information in Appendix A of this year's report includes a discussion of the impact of the significant decline in market values.

We, Thomas K. Custis and William V. Hogan, are actuaries for Milliman USA. We are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

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

Respectfully submitted,

Milliman USA

Thomas K. Custis

Thomas K. Custis, F.S.A.
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STATE OF MINNESOTA

Summary of 2002 Actuarial Valuations

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I. 2002-2003 FUNDING LEVELS *(Tables I-A, I-B, I-C and I-D)*

As the Commission Actuary, 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 three-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 three 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. Due to the deterioration in the market value of assets experienced in the last two fiscal years, we have provided additional analysis of the funding implications of the economic downturn in Appendix A.

Below we comment by plan on our analysis of the actuarial valuations. This commentary is based on the official valuations which reflect the asset smoothing methodology adopted three years ago. The reader should be cautioned that the analysis prepared in Appendix A presents a significantly bleaker picture for most of the plans.

PERA

1. The Public Employees plan experienced a modest improvement in the deficiency measure primarily due to the changes in the actuarial assumptions. This plan continues to show a substantial deficiency as statutory contribution rates are significantly lower than required contributions. Improvement in the deficiency measure may be difficult to achieve in the next few years in light of current unrecognized asset losses. Further corrective action by the legislature may be needed to deal with this deficit situation.

2. The Police and Fire plan continues to be in a well-funded position; however, statutory contributions are substantially below ongoing normal costs. The revised actuarial methods now in place should help to alleviate the possibility of dramatic swings in required contributions over the next several years. In the long term, if the plan does not maintain its

well-funded position, the shortfall of statutory contributions compared to ongoing normal costs could become a significant issue.

3. The Police and Fire Consolidation Fund was terminated and merged into the PERA Police and Fire Fund effective July 1, 1999. Tables 1-D1 and 1-D2 on pages 9 and 10 summarize the funded status of each account remaining as of June 30, 2002.

4. The Local Government Correctional plan is a new plan that was first effective July 1, 1999. The modest sufficiency is due mainly to decreases in the Normal Cost rate as new employees enter the plan.

MSRS

5. The switch from a sufficiency to a deficiency measure in the State Employees plan is due to the change in assumptions and from the recognition of asset losses. Improvement in the deficiency measure may be difficult to achieve in the next few years in light of current unrecognized asset losses. Since Statutory contributions are below ongoing Normal Costs, it may be prudent to consider increases in the contribution rates.

6. All funding ratios declined modestly as did the sufficiency measure in the State Patrol plan. This plan remains well funded. Similar to PERA Police & Fire Plan, ongoing normal costs exceed statutory contributions, albeit to a lesser extent.

7. The Correctional Employees plan experienced significant deterioration in funding ratios and in the sufficiency measure due to unfavorable asset experience and to the changes in assumptions. New job classifications continue to be allowed to transfer into the Correctional plan (we saw a 2.1% increase in active membership in this plan). In most cases, the assets transferred in from MSRS General were not adequate to fully cover the actuarial accrued liability of these new participants. Improvement in the deficiency measure may be difficult to achieve in the next few years in light of current unrecognized asset losses. Since the statutory contribution rates are less than ongoing normal costs of the plan, increases in statutory contribution rates may be warranted.

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. This funding approach has several disadvantages:

   a. It can lead to substantial fluctuations in year-to-year funding requirements;
   b. Due to lack of investment income, it means ultimate State costs are higher; and
   c. It defers funding obligations from one generation of taxpayers to the next.

   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.

Not surprisingly, Table I-C continues to show low funding ratios for these plans year-after-year. Since both of these plans have been closed to new members, it is probably not prudent to consider pre-funding at this time.

9. We note mixed results in the funding ratios and in the sufficiency measure for the Judges plan. Continued funding at the current statutory rates has generally driven the funding ratios higher and has substantially diminished any ongoing concern relating to short-term cash shortages.

TEACHERS

10. The Minnesota TRA fund continues to have a negative unfunded actuarial accrued liability. The modest improvement in the sufficiency measure is due primarily to the new assumptions. The addition of charter school teachers who were previously covered under a First Class City Teacher Retirement Fund had no impact on the unfunded actuarial accrued liability and resulted in no measurable impact in the ongoing Normal Cost percentage.

11. The Duluth Teachers plan showed a large decline in funding ratios and funding status. Unfavorable asset experience combined with the new assumptions contributed to the decreases in the measures of funded status of the plan. Even after the reduction in State supplemental contributions and the adoption of new assumptions, this plan continues to show a solid sufficiency.

12. The St. Paul Teachers plan showed deterioration in funding ratios and funding status primarily due to the changes in assumptions and unfavorable asset experience. The decline in the sufficiency 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 accrued liability. This plan will need to be monitored closely in the year ahead.

13. Significant asset losses in the Minneapolis Teachers plan led to deterioration in all funding ratios and an increase in the deficiency percentage. As of July 1, 2002, the fund is even more severely distressed; 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 for reasons discussed below; legislative attention is urgently needed.

MERF

14. The Minneapolis Employees Retirement Fund had unfavorable asset experience in the 2001-2002 year which was compounded by liability losses. 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 remains below its statutory maximum, but at a higher level than last year. Meanwhile required contribution rates for contributing employers

decreased approximately 0.5% of pay. The absence of an investment-based COLA to Short Service Survivors decreased the current fiscal year's employer contribution. This cost decrease more than offsets cost increases from the unfavorable experience.

ANALYSIS OF PURCHASED SERVICE CREDITS

Provisions under Minnesota Statutes Chapter 390, Article 4, provide the methodology for determining the amounts required to purchase prior service credits under certain circumstances. Those provisions also require the Commission Actuary to provide an analysis by individual and by plan of the impact on the plan's funded status of the service credits actually purchased during the 12 months preceding the valuation. Accordingly, we included Table I-E for all the funds with actual purchases executed. The methodology used to complete this analysis was to calculate the actuarial accrued liability for each individual using our valuation routine (based on status as of July 1, 2002) first reflecting the additional service and then with service adjusted to remove the added service. Table I-E compares the difference in calculated actuarial accrued liability to the amounts paid for the added service. Since many of the purchases involve fractional years of service (and our valuation routine deals with projected benefits using whole years), the results by individual can look strange. We see some participants with no change in calculated liability and others with increases much greater than the purchase amount. In total, however, the service credits purchase amounts in the 2001-2002 year were more than the increase in liability, thus generating a small aggregate gain to the funded status of the plans in total.

Plans that need close scrutiny by the LCPR are St. Paul Teachers, MSRS General, MSRS Correctional, and PERA. Minneapolis Teachers needs immediate attention.

The Minneapolis Teachers funding problem is severe and compounded by several factors that make it likely 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 62% funded. 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 indeed for this fund. We urge the LCPR to explore corrective actions as soon as possible.

On a broader perspective, results of this year's valuations confirm that the future funded status of the major public employee retirement plans in the State of Minnesota will be driven primarily by future returns on fund assets. Issues to consider may include:

- What principles should be established for consideration of changes in statutory contribution rates?
- What are the statutory mechanisms for dealing with a previously "overfunded" plan which becomes underfunded due to future asset or liability experience?
- What level of plan assets vs. accrued liabilities is truly "excessive"?

As Commission Actuary, we stand ready to assist the Commission with these and other issues.

TABLE 1-A: 2002-2003 FUNDING LEVELS (PERCENTAGES)

Fund	Section 356.215 Requirements				Statutory Requirements			
	Normal Cost	Supplemental Cost	Expense	Total	Employee	Employer	Total	Sufficiency/ (Deficiency)
Public Employees (Chapter 353)	8.60%	2.40%	0.23%	11.23%	5.11%	5.55%	10.66%	(0.57%)
Police and Fire (Chapter 353)	20.22%	(7.26%)	0.12%	13.08%	6.20%	9.30%	15.50%	2.42%
Local Correctional (Chapter 353E)	13.83%	0.12%	0.14%	14.09%	5.83%	8.75%	14.58%	0.49%
State Employees (Chapter 352)	9.02%	(0.88%)	0.20%	8.34%	4.00%	4.00%	8.00%	(0.34%)
State Patrol (Chapter 352B)	22.62%	(8.48%)	0.20%	14.34%	8.40%	12.60%	21.00%	6.66%
Correctional (Chapter 352)	14.97%	(0.45%)	0.21%	14.73%	5.69%	7.98%	13.67%	(1.06%)
Legislators (Chapter 3A)	17.80%	44.81%	0.51%	63.12%	9.00%	Terminal Funding	N/A	N/A
Elective State Officers (Chapter 352C)**	0	411	1	412	0	Paygo Funding	N/A	N/A
Judges (Chapter 490)	16.76%	9.87%	0.19%	26.82%	8.00%	20.50%	28.50%	1.68%
Teachers (Chapter 354)	8.68%	(1.55%)	0.44%	7.57%	5.00%	5.00%	10.00%	2.43%
Duluth Teachers (Chapter 354A)	9.13%	(0.12%)	0.84%	9.85%	5.50%	5.79%	11.29%	1.44%
St. Paul Teachers (Chapter 354A)	10.16%	8.19%	0.21%	18.56%	5.92%	11.14% *	17.06%	(1.50%)
Minneapolis Teachers (Chapter 354A)	10.85%	17.93%	0.27%	29.05%	5.90%	16.63% *	22.53%	(6.52%)
Minneapolis Employees (Chapter 422A)	17.97%	26.49%	2.18%	46.64%	9.75%	36.88% *	46.63%	(0.01%)

* Includes State contributions of 7.96% for Minneapolis Teachers, 2.24% for St. Paul Teachers, and 14.67% for Minneapolis Employees.

** Amounts in thousands of dollars

TABLE 1-B: PATTERN OF SUFFICIENCY/DEFICIENCY: 2000-2002

Fund	Actuarial Requirements			Statutory Requirements			Sufficiency/(Deficiency)		
	2000	2001	2002	2000	2001	2002	2000	2001	2002
Public Employees	11.94%	11.60%	11.23%	9.98%	10.32%	10.66%	(1.96)%	(1.28)%	(0.57)%
Police and Fire	12.68%	13.12%	13.08%	15.50%	15.50%	15.50%	2.82%	2.38%	2.42%
Local Correctional	14.37%	14.21%	14.09%	14.58%	14.58%	14.58%	0.21%	0.37%	0.49%
State Employees	7.12%	6.79%	8.34%	8.00%	8.00%	8.00%	0.88%	1.21%	(0.34)%
State Patrol	15.48%	14.00%	14.34%	21.00%	21.00%	21.00%	5.52%	7.00%	6.66%
Correctional	13.72%	13.81%	14.73%	13.67%	13.67%	13.67%	(0.05)%	(0.14)%	(1.06)%
Legislators	55.88%	60.14%	63.12%	T.F.	T.F.	T.F.	N/A	N/A	N/A
Elective State Officers	340*	371*	412*	P.G.	P.G.	P.G.	N/A	N/A	N/A
Judges	27.03%	26.72%	26.82%	28.50%	28.50%	28.50%	1.47%	1.78%	1.68%
Teachers	7.92%	7.85%	7.57%	10.00%	10.00%	10.00%	2.08%	2.15%	2.43%
Duluth Teachers	8.51%	7.49%	9.85%	12.21%	12.20%	11.29%	3.70%	4.71%	1.44%
St. Paul Teachers	16.57%	15.81%	18.56%	17.29%	17.07%	17.06%	0.72%	1.26%	(1.50)%
Minneapolis Teachers	25.25%	25.45%	29.05%	23.25%	22.72%	22.53%	(2.00)%	(2.73)%	(6.52)%
Minneapolis Employees	36.85%	41.78%	46.64%	36.84%	41.77%	46.63%	(0.01)%	(0.01)%	(0.01)%

* Amount in thousands of dollars

TABLE 1-C: ACCRUED BENEFIT FUNDING RATIOS: 2000-2002

(Dollars in Millions)

Fund	Current Assets			P.V. of Accrued Benefit			A.B. Funding Ratio		
	2000	2001	2002	2000	2001	2002	2000	2001	2002
Public Employees	$9,609	$10,527	$11,017	$10,348	$11,305	$12,107	92.86%	93.12%	91.00%
Police and Fire	$4,145	$4,510	$4,707	$3,250	$3,567	$3,738	127.55%	126.43%	125.94%
Local Correctional	$11	$25	$40	$10	$24	$40	107.54%	102.11%	101.05%
State Employees	$6,744	$7,367	$7,673	$5,659	$6,116	$6,880	119.18%	120.45%	111.52%
State Patrol	$529	$573	$591	$445	$476	$497	118.89%	120.32%	119.01%
Correctional	$387	$431	$457	$326	$363	$409	118.83%	118.80%	111.73%
Legislators	$37	$43	$46	$67	$73	$76	55.67%	58.70%	59.71%
Elective State Officers	$0.2	$0.2	$0.2	$3.5	$3.8	$4.1	5.63%	5.32%	4.93%
Judges	$111	$124	$131	$147	$158	$165	75.63%	78.07%	79.85%
Teachers	$15,573	$16,834	$17,379	$14,010	$15,099	$15,715	111.16%	111.49%	110.59%
Duluth Teachers	$251	$274	$281	$231	$243	$268	108.59%	112.38%	104.59%
St. Paul Teachers	$801	$869	$900	$947	$1,010	$1,090	84.69%	86.08%	82.55%
Minneapolis Teachers	$1,028	$1,062	$1,028	$1,489	$1,556	$1,610	69.01%	68.23%	63.86%
Minneapolis Employees	$1,416	$1,507	$1,540	$1,491	$1,594	$1,648	95.00%	94.54%	93.44%

Table 1-D1: Summary of Accounts with Positive Amortizable Bases at June 30, 2002

Account	Net Amortizable Base at June 30, 2001	January 1, 2002 Amortization Payment	Net Amortizable Base at June 30, 2002
Anoka Police	$83,112	$14,149	$75,438
Columbia Heights Police	$333,091	$56,706	$302,337
Crookston Fire	$22,582	$3,845	$20,496
Crookston Police	$186,198	$31,699	$169,006
Duluth Fire	$17,641,177	$3,003,285	$16,012,355
Duluth Police	$4,822,000	$820,911	$4,376,782
Faribault Fire	$1,388,248	$236,339	$1,260,070
Faribault Police	$164,357	$27,980	$149,182
Hibbing Fire	$2,685,062	$457,113	$2,437,148
Hibbing Police	$1,175,882	$200,186	$1,067,312
Mankato Fire	$789,691	$134,439	$716,779
St. Cloud Fire	$2,489,759	$423,864	$2,259,878
St. Paul Fire	$240,642	$40,967	$218,424
South St. Paul Fire	$1,316,968	$224,204	$1,195,372
South St. Paul Police	$624,175	$106,261	$566,545
Winona Fire	$2,523,606	$429,626	$2,290,600
Winona Police	$1,606,307	$273,462	$1,457,996
Total	**$38,092,857**	**$6,485,036**	**$34,575,720**

Table 1-D2: Summary of Accounts with Negative Amortizable Bases at June 30, 2002

Account	Amount Payable at at June 30, 2001	Interest Credited in Fiscal Year Ending June 30, 2002	Amount Paid in Fiscal Year Ending June 30, 2002	Amount Payable at June 30, 2002
Mankato Police	1,440,239	(65,576)	1,374,663	0
Total	**$1,440,239**	**($65,576)**	**$1,374,663**	**$0**

TABLE 1-E: ANALYSIS OF SERVICE CREDIT PURCHASES MADE IN PERIOD ENDING JUNE 30, 2002

Public Employees Retirement Association

	PERA Number	PERA Employer	Service Purchased	Employee Payment	Employer Payment	Change in Accrued Liability	Gain/(Loss) to Plan
Active Members:	519830		4.083	$43,126	$0	$54,995	($11,869)
	587156		1.833	$3,334	$0	$1,091	$2,243
	278221		0.167	$3,143	$0	$1,710	$1,433
	201942		4.000	$8,779	$0	$10,986	($2,207)
	522837		9.250	$14,907	$0	$5,236	$9,671
	142547		0.167	$2,905	$0	$2,053	$852
	441887		1.750	$9,638	$0	$10,807	($1,169)
	530799		2.167	$9,423	$0	$9,186	$237
	292168		2.083	$33,025	$0	$26,644	$6,381
	276482		4.083	$150,074	$0	$133,060	$17,014
	463757		4.083	$37,305	$0	$37,114	$191
	326064		0.083	$708	$0	$2,393	($1,685)
	395544		2.917	$13,825	$0	$14,023	($199)
	257746		1.167	$20,969	$0	$21,131	($162)
	263202		1.500	$22,200	$0	$16,474	$5,726
	190272		0.500	$2,902	$0	$4,108	($1,206)
	352899		3.250	$14,580	$0	$15,952	($1,372)
	328258		2.000	$33,690	$0	$27,113	$6,577
	400010		2.083	$18,674	$0	$18,232	$442
	150090		0.500	$16,793	$0	$11,213	$5,580
	311798		2.083	$25,445	$0	$21,823	$3,622
	219113		1.000	$20,552	$0	$19,974	$578
	420018		0.417	$738	$0	$397	$341
	313754		1.750	$16,467	$0	$14,855	$1,612
	239841		1.083	$18,693	$0	$11,515	$7,178
	354355		2.750	$29,888	$0	$25,483	$4,405
	205819		3.667	$73,770	$0	$67,615	$6,155
Active subtotal:				**$645,554**	**$0**	**$585,183**	**$60,371**

TABLE 1-E: ANALYSIS OF SERVICE CREDIT PURCHASES MADE IN PERIOD ENDING JUNE 30, 2002

Public Employees Retirement Association

	PERA Number	PERA Employer	Service Purchased	Employee Payment	Employer Payment	Change in Accrued Liability	Gain/(Loss) to Plan
Deferred Vested Members:	none						
Deferred Vested subtotal:				**$0**	**$0**	**$0**	**$0**
Retired Members:	117812		0.750	$4,131	$9,566	$14,235	($538)
	080391		1.000	$0	$3,378	$6,373	($2,995)
Retired subtotal:				**$4,131**	**$12,944**	**$20,608**	**($3,533)**
TOTAL (PERA)				**$649,685**	**$12,944**	**$605,791**	**$56,838**

TABLE 1-E: ANALYSIS OF SERVICE CREDIT PURCHASES MADE IN PERIOD ENDING JUNE 30, 2002

Public Employees Police & Fire Fund

	PERA Number	PERA Employer	Service Purchased	Employee Payment	Employer Payment	Change in Accrued Liability	Gain/(Loss) to Plan
Active Members:	390021		3.083	$29,846	$0	$23,375	$6,471
	539115		3.083	$61,752	$0	$53,141	$8,611
	546634		1.667	$67,919	$0	$53,487	$14,432
	391693		2.833	$44,594	$0	$46,938	($2,344)
	539331		2.333	$65,015	$0	$61,895	$3,120
	543015		3.917	$42,721	$0	$42,384	$337
	360178		4.000	$74,658	$0	$78,233	($3,575)
	542230		2.917	$41,025	$0	$44,785	($3,760)
	475894		4.083	$59,191	$0	$60,910	($1,719)
	538817		1.333	$28,501	$0	$22,969	$5,532
	545280		1.583	$15,954	$0	$12,495	$3,459
	474023		3.000	$55,387	$0	$57,681	($2,294)
Active subtotal:				**$586,563**	**$0**	**$558,293**	**$28,270**
Deferred Vested Members:	none						
Deferred Vested subtotal:				**$0**	**$0**	**$0**	**$0**
Retired Members:	none						$0
Retired subtotal:				**$0**	**$0**	**$0**	**$0**
TOTAL (PEPF)				**$586,563**	**$0**	**$558,293**	**$28,270**

TABLE 1-E: ANALYSIS OF SERVICE CREDIT PURCHASES MADE IN PERIOD ENDING JUNE 30, 2002

State Employees Retirement Association

	Member Number	Service Purchased	Employee Payment	Employer Payment	Change in Accrued Liability	Gain/(Loss) to Plan
Active Members:	303-48-9703	6.000	$38,389	$0	$41,615	($3,226)
	310-44-8587	0.667	$17,718	$0	$13,758	$3,960
	388-44-8268	3.167	$15,997	$0	$15,537	$460
	468-60-9967	0.667	$13,815	$0	$12,577	$1,238
	468-76-4723	2.083	$16,790	$0	$12,552	$4,238
	472-50-8178	2.083	$41,919	$0	$25,352	$16,567
	472-80-0795	3.083	$10,793	$0	$18,038	($7,245)
	475-48-6996	0.750	$9,766	$0	$8,876	$890
	476-50-2817	3.917	$44,059	$0	$15,666	$28,393
	476-56-0489	4.083	$15,066	$0	$25,018	($9,952)
	484-46-5576	1.833	$16,346	$0	$18,877	($2,531)
Active subtotal:			**$240,657**	**$0**	**$207,866**	**$32,791**
Deferred Vested Members:	none		$0	$0	$0	$0
Deferred Vested subtotal:			**$0**	**$0**	**$0**	**$0**
Retired Members:	none		$0	$0	$0	$0
Retired subtotal:			**$0**	**$0**	**$0**	**$0**
TOTAL (SERA)			**$240,657**	**$0**	**$207,866**	**$32,791**

TABLE 1-E: ANALYSIS OF SERVICE CREDIT PURCHASES MADE IN PERIOD ENDING JUNE 30, 2002

Correctional Employees Retirement Fund

	Member Number	Service Purchased	Employee Payment	Employer Payment	Change in Accrued Liability	Gain/(Loss) to Plan
Active Members:	394-54-4621	1.333	$15,286	$0	$10,629	$4,657
Active subtotal:			**$15,286**	**$0**	**$10,629**	**$4,657**
Deferred Vested Members:	none		$0	$0	$0	$0
Deferred Vested subtotal:			**$0**	**$0**	**$0**	**$0**
Retired Members:	none		$0	$0	$0	$0
Retired subtotal:			**$0**	**$0**	**$0**	**$0**
TOTAL (CERF)			**$15,286**	**$0**	**$10,629**	**$4,657**

TABLE 1-E: ANALYSIS OF SERVICE CREDIT PURCHASES MADE IN PERIOD ENDING JUNE 30, 2002

Teachers Retirement Plan

	TRA Number	TRA Employer Unit	Service Purchased	Employee Payment	Employer Payment	Change in Accrued Liability	Gain/(Loss) to Plan
Active Members:	067816	101-00018	1.000	$ 13,106	$0	$ 12,590	$516
	077090	019-00192	0.230	$ 5,631	$0	$ 3,222	$2,409
	079614	019-00006	4.000	$ 28,076	$0	$ 26,507	$1,569
	079876	046-02752	0.430	$ 5,820	$0	$ 4,514	$1,306
	085117	011-00115	0.910	$ 15,718	$0	$ 10,837	$4,881
	087813	007-00077	1.236	$ 15,555	$0	$ 10,144	$5,411
	087814	007-00077	1.000	$ 17,512	$0	$ 11,862	$5,650
	088663	034-00345	2.840	$ 27,334	$0	$ 25,893	$1,441
	088710	077-02753	1.470	$ 24,910	$0	$ 18,168	$6,742
	093376	018-00181	0.760	$ 10,175	$0	$ 6,396	$3,779
	093970	002-00011	1.000	$ 10,459	$0	$ 9,885	$574
	098805	073-00740	1.820	$ 25,092	$0	$ 15,975	$9,117
	098968	071-00728	0.190	$ 3,245	$0	$ 7,248	($4,003)
	099660	074-00761	0.640	$ 12,885	$0	$ 5,746	$7,139
	100599	074-00761	1.000	$ 12,570	$0	$ 11,620	$950
	102150	001-00004	1.730	$ 6,340	$0	$ 141	$6,199
	104476	086-00885	5.000	$ 34,744	$0	$ 118	$34,626
	105106	073-00742	3.000	$ 41,430	$0	$ 37,890	$3,540
	105556	008-00088	0.040	$ 545	$0	$ 317	$228
	105927	094-09458	1.790	$ 18,945	$0	$ 6,166	$12,779
	105953	082-00833	0.350	$ 6,229	$0	$ 16,738	($10,509)
	106109	025-00256	0.420	$ 10,010	$0	$ 4,535	$5,475
	107272	027-00271	0.120	$ 2,720	$0	$ 14,015	($11,295)
	108793	062-00621	1.490	$ 24,839	$0	$ 17,145	$7,694
	110089	085-00861	0.290	$ 5,162	$0	$ 3,248	$1,914
	110121	002-00012	1.000	$ 14,000	$0	$ 174	$13,826
	111818	018-00181	1.000	$ 27,445	$0	$ 39,016	($11,571)
	112047	019-00197	1.000	$ 20,700	$0	$ 12,269	$8,431
	112949	002-00011	0.130	$ 2,590	$0	$ 1,392	$1,198
	113223	063-00630	1.000	$ 9,389	$0	$ 149	$9,240
	113514	027-00271	0.050	$ 1,110	$0	$ 617	$493
	114131	002-00011	3.000	$ 64,926	$0	$ 51,665	$13,261

TABLE 1-E: ANALYSIS OF SERVICE CREDIT PURCHASES MADE IN PERIOD ENDING JUNE 30, 2002

Teachers Retirement Plan

TRA Number	TRA Employer Unit	Service Purchased	Employee Payment	Employer Payment	Change in Accrued Liability	Gain/(Loss) to Plan
114285	074-00756	1.000	$ 12,812	$0	$ 11,163	$1,649
114287	050-00499	1.210	$ 23,286	$0	$ 20,062	$3,224
114335	062-00624	0.350	$ 6,567	$0	$ 3,657	$2,910
114535	002-00011	1.480	$ 27,332	$0	$ 15,293	$12,039
114607	027-00271	0.400	$ 9,013	$0	$ 5,726	$3,287
114995	064-02758	0.520	$ 8,456	$0	$ 7,768	$688
115286	017-00177	1.400	$ 49,448	$0	$ 21,962	$27,486
115354	002-00011	0.640	$ 13,441	$0	$ 8,180	$5,261
115675	082-00833	0.210	$ 4,787	$0	$ 2,489	$2,298
115849	082-00833	0.120	$ 2,611	$0	$ 1,388	$1,223
115931	019-00196	1.000	$ 13,543	$0	$ 14,322	($779)
116288	013-02144	1.000	$ 24,158	$0	$ 14,283	$9,875
116834	002-00011	1.080	$ 19,755	$0	$ 19,616	$139
116884	082-00832	0.820	$ 31,428	$0	$ 19,416	$12,012
117072	013-02144	1.000	$ 31,289	$0	$ 21,952	$9,337
117174	002-00011	2.000	$ 42,367	$0	$ 35,788	$6,579
117495	082-00831	0.490	$ 5,787	$0	$ 5,387	$400
117814	027-00279	1.000	$ 30,061	$0	$ 19,491	$10,570
117832	052-00508	1.000	$ 19,249	$0	$ 10,101	$9,148
117893	023-02198	0.280	$ 4,699	$0	$ 2,376	$2,323
118462	027-00281	0.070	$ 1,376	$0	$ 766	$610
118599	007-00077	1.020	$ 23,465	$0	$ 25,121	($1,656)
119241	016-00166	1.000	$ 7,151	$0	$ 71	$7,080
119565	030-00911	0.320	$ 6,609	$0	$ 4,062	$2,547
119640	069-00704	2.000	$ 38,573	$0	$ 32,410	$6,163
120063	082-00833	1.000	$ 18,522	$0	$ 13,221	$5,301
120108	040-00394	0.410	$ 5,892	$0	$ 3,799	$2,093
120129	003-00023	0.630	$ 7,809	$0	$ 11,336	($3,527)
121146	040-00394	0.620	$ 9,405	$0	$ 12,328	($2,923)
121285	062-00623	0.230	$ 5,052	$0	$ 15,976	($10,924)
121397	024-00241	0.650	$ 8,298	$0	$ 5,375	$2,923
121738	062-00622	0.190	$ 3,715	$0	$ 5,950	($2,235)
121899	074-00761	0.550	$ 9,326	$0	$ 5,932	$3,394

TABLE 1-E: ANALYSIS OF SERVICE CREDIT PURCHASES MADE IN PERIOD ENDING JUNE 30, 2002

Teachers Retirement Plan

TRA Number	TRA Employer Unit	Service Purchased	Employee Payment	Employer Payment	Change in Accrued Liability	Gain/(Loss) to Plan
122205	055-00535	1.500	$ 25,837	$0	$ 16,281	$9,556
122645	062-00622	0.690	$ 15,800	$0	$ 19,896	($4,096)
123055	049-00482	0.140	$ 3,187	$0	$ 1,518	$1,669
123607	040-00394	1.000	$ 16,254	$0	$ 18,070	($1,816)
123637	062-00624	4.950	$ 87,560	$0	$ 66,796	$20,764
123661	027-00279	0.640	$ 13,478	$0	$ 7,695	$5,783
123692	086-00877	0.910	$ 18,231	$0	$ 10,634	$7,597
123794	073-00742	1.490	$ 28,988	$0	$ 31,904	($2,916)
123845	010-00112	1.990	$ 39,107	$0	$ 36,487	$2,620
124147	062-00623	1.100	$ 20,079	$0	$ 21,856	($1,777)
124465	083-00840	0.780	$ 14,064	$0	$ 8,048	$6,016
124659	030-00911	0.410	$ 5,947	$0	$ 3,252	$2,695
124954	019-00191	0.220	$ 3,928	$0	$ 1,952	$1,976
124959	071-00728	0.050	$ 946	$0	$ 567	$379
125885	005-00047	4.700	$ 70,483	$0	$ 50,699	$19,784
126648	027-00279	2.000	$ 39,647	$0	$ 38,502	$1,145
127293	005-00047	1.300	$ 20,465	$0	$ 19,097	$1,368
128466	101-00015	3.770	$ 73,269	$0	$ 62,033	$11,236
128613	064-02758	0.390	$ 6,058	$0	$ 11,431	($5,373)
128617	068-00682	0.180	$ 2,451	$0	$ 1,211	$1,240
129174	062-00621	2.000	$ 55,938	$0	$ 45,508	$10,430
129770	101-00028	0.300	$ 6,337	$0	$ 3,492	$2,845
130243	019-00200	3.080	$ 54,940	$0	$ 41,405	$13,535
130371	085-00861	0.320	$ 5,984	$0	$ 3,042	$2,942
130951	021-00206	2.000	$ 34,601	$0	$ 31,035	$3,566
131343	064-02754	0.930	$ 15,082	$0	$ 8,151	$6,931
131993	027-00281	1.410	$ 20,483	$0	$ 14,501	$5,982
132581	048-00480	1.000	$ 12,447	$0	$ 14,749	($2,302)
133019	079-00810	0.470	$ 7,102	$0	$ 3,695	$3,407
133489	070-00717	0.200	$ 3,142	$0	$ 2,127	$1,015
133671	073-00742	1.220	$ 26,064	$0	$ 18,174	$7,890
133818	002-00012	1.080	$ 17,811	$0	$ 12,650	$5,161
134411	049-00484	0.640	$ 11,668	$0	$ 6,000	$5,668

TABLE 1-E: ANALYSIS OF SERVICE CREDIT PURCHASES MADE IN PERIOD ENDING JUNE 30, 2002

Teachers Retirement Plan

TRA Number	TRA Employer Unit	Service Purchased	Employee Payment	Employer Payment	Change in Accrued Liability	Gain/(Loss) to Plan
134565	053-00516	1.000	$ 13,087	$0	$ 14,469	($1,382)
134788	014-00146	0.880	$ 14,547	$0	$ 7,775	$6,772
134873	060-00593	0.190	$ 2,550	$0	$ 1,251	$1,299
135043	027-00283	1.750	$ 53,362	$0	$ 45,589	$7,773
135246	070-00720	0.940	$ 23,542	$0	$ 25,302	($1,760)
135913	002-00011	1.910	$ 40,695	$0	$ 33,789	$6,906
136804	074-00761	1.880	$ 24,782	$0	$ 25,308	($526)
136859	027-00276	1.000	$ 8,362	$0	$ 8,220	$142
137064	023-00238	0.630	$ 8,853	$0	$ 4,811	$4,042
137231	002-00016	0.810	$ 15,152	$0	$ 9,394	$5,758
137447	027-00283	0.960	$ 19,784	$0	$ 12,784	$7,000
137628	086-00877	0.600	$ 9,974	$0	$ 14,979	($5,005)
137651	101-00025	1.272	$ 42,692	$0	$ 21,012	$21,680
137748	062-00624	2.000	$ 40,425	$0	$ 28,963	$11,462
138126	027-00287	0.350	$ 8,026	$0	$ 3,838	$4,188
138298	069-02711	0.440	$ 7,521	$0	$ 4,221	$3,300
138366	007-02071	1.500	$ 19,865	$0	$ 18,503	$1,362
138499	050-00499	1.000	$ 14,381	$0	$ 16,934	($2,553)
138718	007-02071	1.000	$ 13,999	$0	$ 10,749	$3,250
138816	002-00013	1.000	$ 17,923	$0	$ 10,701	$7,222
139045	002-00013	2.500	$ 40,215	$0	$ 36,365	$3,850
139056	094-09458	0.260	$ 3,994	$0	$ 2,095	$1,899
139208	083-00840	2.000	$ 21,074	$0	$ 14,058	$7,016
140205	028-00300	1.860	$ 31,979	$0	$ 27,424	$4,555
140440	013-00138	0.070	$ 1,391	$0	$ 624	$767
140528	101-00015	0.460	$ 10,207	$0	$ 8,686	$1,521
140683	082-00833	1.000	$ 10,144	$0	$ 7,659	$2,485
140747	082-00833	0.480	$ 9,936	$0	$ 14,919	($4,983)
141817	070-00719	1.360	$ 25,717	$0	$ 22,904	$2,813
142326	027-00281	1.410	$ 21,826	$0	$ 16,920	$4,906
142349	062-00624	3.241	$ 53,881	$0	$ 49,460	$4,421
142507	070-00721	0.920	$ 15,457	$0	$ 16,982	($1,525)
142878	081-02168	1.000	$ 15,165	$0	$ 9,033	$6,132

TABLE 1-E: ANALYSIS OF SERVICE CREDIT PURCHASES MADE IN PERIOD ENDING JUNE 30, 2002

Teachers Retirement Plan

TRA Number	TRA Employer Unit	Service Purchased	Employee Payment	Employer Payment	Change in Accrued Liability	Gain/(Loss) to Plan
142967	028-00299	0.340	$ 6,151	$0	$ 2,869	$3,282
143455	085-00861	0.471	$ 6,830	$0	$ 3,474	$3,356
144035	053-00511	1.000	$ 29,730	$0	$ 18,984	$10,746
144109	019-00194	2.030	$ 57,317	$0	$ 52,343	$4,974
144489	082-00833	1.930	$ 36,124	$0	$ 22,513	$13,611
144917	062-00623	1.530	$ 22,607	$0	$ 18,668	$3,939
145138	085-00858	1.000	$ 17,292	$0	$ 20,341	($3,049)
145442	062-00621	2.000	$ 39,021	$0	$ 32,177	$6,844
145778	085-00861	7.170	$ 101,256	$0	$ 67,079	$34,177
146134	018-00181	0.540	$ 9,236	$0	$ 6,604	$2,632
147609	044-00435	0.230	$ 3,292	$0	$ 4,669	($1,377)
147785	022-02134	0.990	$ 8,782	$0	$ 7,923	$859
148120	007-00077	1.140	$ 24,402	$0	$ 24,060	$342
148344	031-00318	0.610	$ 10,600	$0	$ 6,298	$4,302
148773	014-00146	0.590	$ 7,760	$0	$ 6,387	$1,373
149315	046-02448	0.360	$ 5,389	$0	$ 3,900	$1,489
149376	027-00272	3.960	$ 62,076	$0	$ 68,056	($5,980)
149679	014-00146	0.140	$ 1,959	$0	$ 906	$1,053
149700	082-00831	0.750	$ 11,832	$0	$ 13,694	($1,862)
149709	002-00011	0.320	$ 5,572	$0	$ 2,882	$2,690
149846	084-00850	0.820	$ 9,003	$0	$ 10,359	($1,356)
150166	027-00273	4.000	$ 77,618	$0	$ 89,730	($12,112)
150526	062-00623	0.730	$ 11,766	$0	$ 7,072	$4,694
150653	027-00277	1.000	$ 17,216	$0	$ 21,068	($3,852)
150952	019-00199	1.000	$ 19,668	$0	$ 20,335	($667)
151365	058-00578	1.030	$ 15,380	$0	$ 9,589	$5,791
151423	085-00858	0.410	$ 6,712	$0	$ 3,340	$3,372
151536	018-00181	3.000	$ 51,145	$0	$ 43,476	$7,669
151844	041-00403	1.000	$ 11,305	$0	$ 12,192	($887)
153374	002-00013	1.500	$ 17,293	$0	$ 12,963	$4,330
153391	014-00146	0.880	$ 10,954	$0	$ 6,928	$4,026
153892	029-00308	0.730	$ 9,088	$0	$ 5,624	$3,464
153921	062-00622	2.450	$ 43,670	$0	$ 39,196	$4,474

TABLE 1-E: ANALYSIS OF SERVICE CREDIT PURCHASES MADE IN PERIOD ENDING JUNE 30, 2002

Teachers Retirement Plan

TRA Number	TRA Employer Unit	Service Purchased	Employee Payment	Employer Payment	Change in Accrued Liability	Gain/(Loss) to Plan
154391	101-00012	5.650	$ 88,757	$0	$ 63,632	$25,125
154704	079-00813	1.000	$ 14,854	$0	$ 9,049	$5,805
155256	014-00146	2.000	$ 27,599	$0	$ 22,805	$4,794
155408	025-00253	4.280	$ 38,841	$0	$ 28,138	$10,703
156048	003-02889	2.000	$ 27,994	$0	$ 17,890	$10,104
156735	048-00477	1.540	$ 19,028	$0	$ 15,591	$3,437
157320	070-00719	1.000	$ 18,483	$0	$ 12,565	$5,918
157464	002-00011	5.000	$ 49,917	$0	$ 39,342	$10,575
157542	052-00508	5.000	$ 77,244	$0	$ 67,163	$10,081
157771	007-00077	0.980	$ 16,238	$0	$ 16,709	($471)
158010	101-00013	1.540	$ 24,764	$0	$ 23,978	$786
158250	070-00721	1.820	$ 26,232	$0	$ 15,324	$10,908
158685	027-00286	0.320	$ 5,600	$0	$ 7,745	($2,145)
158897	101-00012	2.000	$ 40,947	$0	$ 40,669	$278
159168	101-00015	5.000	$ 188,116	$0	$ 162,472	$25,644
159396	087-00891	2.380	$ 27,461	$0	$ 27,624	($163)
159481	056-00544	0.380	$ 5,630	$0	$ 2,587	$3,043
159569	002-00012	6.000	$ 23,939	$0	$ 29,292	($5,353)
160345	081-00829	2.310	$ 34,193	$0	$ 23,253	$10,940
160414	043-00423	3.710	$ 59,292	$0	$ 53,770	$5,522
162134	027-00272	3.500	$ 63,754	$0	$ 60,796	$2,958
162506	005-00047	2.300	$ 25,017	$0	$ 17,562	$7,455
162671	062-00624	1.470	$ 24,647	$0	$ 17,449	$7,198
162691	052-00508	0.700	$ 8,630	$0	$ 6,909	$1,721
164195	019-00194	1.270	$ 24,562	$0	$ 22,240	$2,322
164270	070-00719	0.570	$ 11,233	$0	$ 11,612	($379)
164492	069-02154	1.500	$ 21,449	$0	$ 15,345	$6,104
164531	053-00518	3.400	$ 50,107	$0	$ 33,410	$16,697
164897	077-02170	1.700	$ 19,461	$0	$ 10,957	$8,504
165066	018-00181	1.470	$ 21,211	$0	$ 15,643	$5,568
165156	034-00347	3.000	$ 30,312	$0	$ 23,052	$7,260
165391	101-00012	2.000	$ 39,599	$0	$ 38,854	$745
165639	031-00318	3.520	$ 56,239	$0	$ 41,717	$14,522

TABLE 1-E: ANALYSIS OF SERVICE CREDIT PURCHASES MADE IN PERIOD ENDING JUNE 30, 2002

Teachers Retirement Plan

TRA Number	TRA Employer Unit	Service Purchased	Employee Payment	Employer Payment	Change in Accrued Liability	Gain/(Loss) to Plan
166468	027-00280	2.000	$ 34,518	$0	$ 29,700	$4,818
166760	019-00194	0.020	$ 315	$0	$ 184	$131
167786	062-00621	5.000	$ 54,941	$0	$ 16,019	$38,922
168022	003-00022	1.270	$ 16,326	$0	$ 14,625	$1,701
168435	057-00564	1.000	$ 11,925	$0	$ 6,981	$4,944
168690	062-00623	2.000	$ 36,607	$0	$ 28,111	$8,496
168696	062-00621	2.780	$ 12,253	$0	$ 4,905	$7,348
169294	035-02171	1.000	$ 10,489	$0	$ 11,986	($1,497)
169506	011-02174	3.000	$ 40,692	$0	$ 29,207	$11,485
169910	048-00480	1.740	$ 21,522	$0	$ 13,392	$8,130
169936	027-00286	2.342	$ 78,183	$0	$ 60,215	$17,968
171275	073-00745	2.550	$ 35,397	$0	$ 30,294	$5,103
171540	073-00750	2.000	$ 27,594	$0	$ 24,211	$3,383
172122	075-00769	2.000	$ 28,533	$0	$ 22,628	$5,905
173272	027-00280	0.650	$ 10,164	$0	$ 8,245	$1,919
173416	005-00047	0.750	$ 7,511	$0	$ 2,036	$5,475
173711	062-00623	3.080	$ 93,250	$0	$ 86,559	$6,691
174183	101-00044	1.000	$ 15,433	$0	$ 10,918	$4,515
174382	010-00110	1.870	$ 25,696	$0	$ 21,037	$4,659
174538	024-00241	3.000	$ 36,837	$0	$ 25,039	$11,798
175172	101-00026	3.000	$ 47,001	$0	$ 38,669	$8,332
176338	101-00012	1.500	$ 22,800	$0	$ 15,610	$7,190
176588	027-00276	1.000	$ 12,669	$0	$ 7,959	$4,710
176652	019-00199	0.860	$ 13,479	$0	$ 11,574	$1,905
178455	002-00016	1.000	$ 14,103	$0	$ 8,276	$5,827
179536	050-00500	3.080	$ 64,217	$0	$ 36,775	$27,442
180124	023-00229	8.000	$ 93,313	$0	$ 43,848	$49,465
180350	064-02754	0.130	$ 1,204	$0	$ 519	$685
180660	028-00294	0.650	$ 6,797	$0	$ 4,512	$2,285
180837	031-00318	3.000	$ 45,449	$0	$ 38,392	$7,057
181476	011-00118	2.600	$ 32,087	$0	$ 25,818	$6,269
182037	101-00027	1.000	$ 12,881	$0	$ 8,214	$4,667
182206	100-04049	0.500	$ 15,571	$0	$ 12,035	$3,536

TABLE 1-E: ANALYSIS OF SERVICE CREDIT PURCHASES MADE IN PERIOD ENDING JUNE 30, 2002

Teachers Retirement Plan

TRA Number	TRA Employer Unit	Service Purchased	Employee Payment	Employer Payment	Change in Accrued Liability	Gain/(Loss) to Plan
182312	011-00118	1.500	$ 17,023	$0	$ 12,803	$4,220
182553	014-00152	2.000	$ 41,548	$0	$ 35,201	$6,347
184573	101-00046	3.830	$ 82,078	$0	$ 56,468	$25,610
184994	019-00196	0.600	$ 9,492	$0	$ 6,733	$2,759
185472	055-00535	1.700	$ 21,585	$0	$ 20,093	$1,492
185513	101-00011	2.000	$ 21,324	$0	$ 17,955	$3,369
186398	002-00015	0.120	$ 1,182	$0	$ 545	$637
186412	059-02689	3.440	$ 13,118	$0	$ 3,233	$9,885
186983	018-00181	2.190	$ 29,993	$0	$ 30,136	($143)
187248	018-00181	1.620	$ 26,175	$0	$ 22,859	$3,316
188628	004-00031	0.500	$ 7,048	$0	$ 3,459	$3,589
189511	011-02174	0.640	$ 7,137	$0	$ 6,134	$1,003
189534	082-00834	1.300	$ 16,769	$0	$ 14,984	$1,785
190095	019-00196	3.000	$ 27,114	$0	$ 22,963	$4,151
190160	053-00518	3.000	$ 46,899	$0	$ 37,024	$9,875
191176	101-00044	1.000	$ 3,226	$0	$ 11,163	($7,937)
191402	069-02154	5.992	$ 114	$0	$ 33,093	($32,979)
191763	068-00682	1.620	$ 18,072	$0	$ 17,583	$489
192071	027-00272	2.000	$ 47,388	$0	$ 37,203	$10,185
194629	027-00272	7.500	$ 120,450	$0	$ 78,279	$42,171
197288	056-00542	4.000	$ 26,376	$0	$ 21,256	$5,120
198283	101-00049	4.000	$ 60,364	$0	$ 43,871	$16,493
201061	050-00492	0.500	$ 5,624	$0	$ 4,153	$1,471
201076	101-00015	2.020	$ 20,723	$0	$ 18,619	$2,104
201154	069-00701	0.590	$ 6,946	$0	$ 5,539	$1,407
201456	008-00084	2.780	$ 22,796	$0	$ 18,139	$4,657
201975	027-00278	0.140	$ 1,622	$0	$ 622	$1,000
203598	017-00175	2.000	$ 19,043	$0	$ 12,079	$6,964
203710	070-00721	4.000	$ 35,972	$0	$ 27,254	$8,718
204520	019-00196	1.000	$ 9,976	$0	$ 7,807	$2,169
204754	082-00831	1.000	$ 12,784	$0	$ 8,265	$4,519
205248	008-00081	3.060	$ 37,099	$0	$ 33,694	$3,405
205832	055-00535	7.320	$ 77,598	$0	$ 60,500	$17,098

TABLE 1-E: ANALYSIS OF SERVICE CREDIT PURCHASES MADE IN PERIOD ENDING JUNE 30, 2002

Teachers Retirement Plan

TRA Number	TRA Employer Unit	Service Purchased		Employee Payment	Employer Payment		Change in Accrued Liability	Gain/(Loss) to Plan
206301	007-02071	1.000	$	6,986	$0	$	6,597	$389
207510	027-00287	2.000	$	24,651	$0	$	20,499	$4,152
208192	101-00031	3.000	$	35,507	$0	$	28,126	$7,381
208845	027-00272	0.500	$	5,716	$0	$	5,034	$682
209885	019-00197	0.150	$	1,843	$0	$	673	$1,170
210543	027-00281	3.260	$	38,377	$0	$	29,956	$8,421
210878	071-00727	1.490	$	11,668	$0	$	3,914	$7,754
211500	080-00821	1.150	$	8,843	$0	$	7,244	$1,599
211654	086-00876	7.000	$	87,369	$0	$	40,606	$46,763
216921	042-02167	3.000	$	44,084	$0	$	31,545	$12,539
219440	031-00318	2.000	$	22,141	$0	$	16,374	$5,767
220845	049-00484	2.000	$	26,387	$0	$	18,905	$7,482
221085	025-00256	3.470	$	37,988	$0	$	25,978	$12,010
221126	101-00018	1.670	$	20,525	$0	$	15,194	$5,331
227156	019-00196	0.050	$	131	$0	$	47	$84
227761	055-00535	4.000	$	50,445	$0	$	32,273	$18,172
229016	042-02167	3.000	$	19,081	$0	$	23,114	($4,033)
229022	027-00273	5.000	$	41,025	$0	$	44,438	($3,413)
230459	073-00742	4.000	$	16,182	$0	$	20,599	($4,417)
231041	019-00191	1.980	$	8,990	$0	$	7,326	$1,664
232954	019-00196	0.440	$	1,347	$0	$	1,823	($476)
233930	018-00181	5.940	$	21,850	$0	$	16,566	$5,284
234485	101-00037	0.310	$	7,554	$0	$	1,244	$6,310
234813	100-04043	4.530	$	6,985	$0	$	15,230	($8,245)
234814	014-00152	10.500	$	58,761	$0	$	105,173	($46,412)
237322	019-00196	0.060	$	216	$0	$	30	$186
238133	027-00276	2.000	$	6,743	$0	$	5,192	$1,551
239625	005-00047	2.000	$	7,406	$0	$	6,895	$511
240898	002-00011	1.120	$	4,910	$0	$	4,340	$570
241889	019-00006	2.000	$	7,511	$0	$	7,130	$381
244333	014-00152	2.000	$	7,021	$0	$	10,666	($3,645)
247401	027-00279	4.000	$	14,878	$0	$	13,820	$1,058
247552	002-00011	5.750	$	45,901	$0	$	54,041	($8,140)

TABLE 1-E: ANALYSIS OF SERVICE CREDIT PURCHASES MADE IN PERIOD ENDING JUNE 30, 2002

Teachers Retirement Plan

	TRA Number	TRA Employer Unit	Service Purchased	Employee Payment	Employer Payment	Change in Accrued Liability	Gain/(Loss) to Plan
	249002	101-00037	2.000	$ 6,399	$0	$ 9,072	($2,673)
	252252	055-00535	1.000	$ 4,552	$0	$ 3,746	$806
	255387	101-00028	2.000	$ 21,003	$0	$ 15,477	$5,526
	259516	025-00256	3.710	$ 14,709	$0	$ 12,705	$2,004
	260437	027-00279	5.000	$ 11,622	$0	$ 536	$11,086
	266609	012-00129	2.530	$ 9,190	$0	$ 7,734	$1,456
	274486	007-00077	1.200	$ 5,967	$0	$ 3,645	$2,322
Active subtotal:				**$7,108,651**	**$0**	**$ 5,723,700**	**$1,384,951**
Deferred Vested Members:	168451	027-00272	1.000	$ 8,809	$0	$4,677	$4,132
	198394	090-00903	6.000	$ 71,370	$0	$248,550	($177,180)
	210646	082-00834	0.540	$ 4,812	$0	$2,103	$2,709
Deferred Vested subtotal:				**$84,991**	**$0**	**$255,330**	**($170,339)**
Retired Members:	066144	101-00023	0.950	$9,800	$0	$8,110	$1,690
	099587	062-00621	2.000	$43,839	$0	$79,222	($35,383)
	099608	002-00011	0.170	$4,048	$0	$62,902	($58,854)
	100558	056-00549	0.520	$12,758	$0	$43,637	($30,879)
	102629	062-00622	0.070	$2,015	$0	$62,921	($60,906)
	104889	029-00309	2.000	$30,126	$0	$56,072	($25,946)
	104980	027-00279	1.510	$42,351	$0	$70,321	($27,970)
	115852	047-02396	0.140	$2,679	$0	$44,273	($41,594)
	120010	019-00191	1.300	$29,933	$0	$60,700	($30,767)
	120186	040-00394	0.980	$15,956	$0	$35,116	($19,160)
	120683	027-00271	0.040	$855	$0	$27,420	($26,565)
	121339	027-00277	1.000	$15,689	$0	($40,249)	$55,938
	122899	056-00544	1.000	$22,129	$0	$32,431	($10,302)
	123103	002-00014	0.610	$20,562	$0	$49,635	($29,073)
	123533	002-00014	0.650	$20,562	$0	$51,718	($31,156)
	124240	082-00833	0.790	$23,287	$0	$51,039	($27,752)
	124352	002-00011	0.346	$1,143	$0	$4,544	($3,401)
	125145	081-02168	1.220	$23,045	$0	$32,899	($9,854)
	131240	022-02860	0.560	$12,764	$0	$32,352	($19,588)
	133240	031-00318	1.000	$23,350	$0	$39,489	($16,139)

TABLE 1-E: ANALYSIS OF SERVICE CREDIT PURCHASES MADE IN PERIOD ENDING JUNE 30, 2002

Teachers Retirement Plan

	TRA Number	TRA Employer Unit	Service Purchased	Employee Payment	Employer Payment	Change in Accrued Liability	Gain/(Loss) to Plan
	133459	062-00622	0.450	$8,645	$0	$36,574	($27,929)
	134236	019-00197	1.800	$38,640	$0	$38,581	$59
	137076	002-00011	0.910	$17,256	$0	($81,753)	$99,009
	137438	062-00624	0.190	$3,226	$0	($36,680)	$39,906
	138720	082-00834	1.950	$36,877	$0	($166,628)	$203,505
	174252	082-00833	1.530	$34,736	$0	$15,062	$19,674
	200382	101-00023	1.000	$9,488	$0	$7,426	$2,062
	209256	070-00719	1.710	$19,410	$0	$16,438	$2,972
Retired subtotal:				**$525,170**	**$0**	**$633,572**	**($108,402)**
TOTAL (TRA)				**$7,718,811**	**$0**	**$6,612,602**	**$1,106,210**

TABLE 1-E: ANALYSIS OF SERVICE CREDIT PURCHASES MADE IN PERIOD ENDING JUNE 30, 2002

Duluth Teachers Retirement Plan

	Employee Number	Employer Unit	Amount of Service Purchased	Employee Purchase Payment	Employer Purchase Payment	Change in Actuarial Accrued Liability	Gain/(Loss) to Plan
Active Members:	7021	Duluth	1.00000	$5,961	$0	$8,157	($2,196)
	8298	Duluth	5.00000	$23,945	$0	$26,221	($2,276)
	5834	Duluth	1.50000	$29,328	$0	$17,994	$11,334
	6863	Duluth	3.00000	$38,161	$0	$30,149	$8,012
	4574	Duluth	0.14000	$6,937	$0	$5,292	$1,645
	7125	Duluth	4.00000	$39,669	$0	$37,336	$2,333
	7880	Duluth	4.00000	$39,299	$0	$30,371	$8,928
Active subtotal:				**$183,300**	**$0**	**$155,520**	**$27,780**
Deferred Vested Members:	None						
Deferred Vested subtotal:				**$0**	**$0**	**$0**	**$0**
Retired Members:	6183	Duluth	5.00000	$60,004	$0	$58,154	$1,850
				$60,004	**$0**	**$58,154**	**$1,850**
Retired subtotal:							
				$243,304	**$0**	**$213,674**	**$29,630**

TABLE 1-E: ANALYSIS OF SERVICE CREDIT PURCHASES MADE IN PERIOD ENDING JUNE 30, 2002

Minneapolis Teachers' Retirement Fund Association

	Employee Number	Employer Unit	Amount of Service Purchased	Employee Purchase Payment	Employer Purchase Payment	Change in Actuarial Accrued Liability	Gain/(Loss) to Plan
Active Members:	17963	Minneapolis	3.00000	$42,702	$0	$34,419	$8,283
	16805	Minneapolis	1.00000	$37,574	$0	$17,070	$20,504
	18590	Minneapolis	1.00000	$8,131	$0	$8,258	($127)
	17496	Minneapolis	2.00000	$35,762	$0	$25,212	$10,550
	13636	Minneapolis	1.00000	$19,520	$0	$17,336	$2,184
	18530	Minneapolis	1.00000	$11,913	$0	$9,672	$2,241
	18742	Minneapolis	2.00000	$21,986	$0	$20,964	$1,022
	15930	Minneapolis	1.00000	$40,684	$0	$23,940	$16,744
	19021	Minneapolis	1.00000	$17,050	$0	$9,506	$7,544
	18777	Minneapolis	4.00000	$58,146	$0	$47,930	$10,216
	14408	Minneapolis	2.00000	$30,143	$0	$30,859	($716)
	18525	Minneapolis	8.00000	$103,158	$0	$88,969	$14,189
	18858	Minneapolis	4.00000	$41,217	$0	$55,148	($13,931)
	17947	Minneapolis	2.00000	$18,585	$0	$17,293	$1,292
	18251	Minneapolis	2.00000	$24,414	$0	$15,128	$9,286
	17501	Minneapolis	2.00000	$28,711	$0	$25,871	$2,840
	18523	Minneapolis	2.00000	$33,617	$0	$21,944	$11,673
	14217	Minneapolis	2.00000	$34,173	$0	$25,853	$8,320
	19952	Minneapolis	2.00000	$30,893	$0	$32,528	($1,635)
	18517	Minneapolis	2.00000	$22,382	$0	$20,058	$2,324
	15057	Minneapolis	1.00000	$23,483	$0	$16,052	$7,431
	17446	Minneapolis	1.00000	$15,097	$0	$17,506	($2,409)
	12979	Minneapolis	1.00000	$43,944	$0	$43,179	$765
	14421	Minneapolis	1.00000	$10,540	$0	$28,704	($18,164)
	16233	Minneapolis	1.00000	$49,917	$0	$36,009	$13,908
	18716	Minneapolis	2.00000	$19,362	$0	$18,007	$1,355
	18522	Minneapolis	2.00000	$27,253	$0	$18,329	$8,924
	17864	Minneapolis	1.00000	$18,155	$0	$1,307	$16,848

TABLE 1-E: ANALYSIS OF SERVICE CREDIT PURCHASES MADE IN PERIOD ENDING JUNE 30, 2002

Minneapolis Teachers' Retirement Fund Association

	Employee Number	Employer Unit	Amount of Service Purchased	Employee Purchase Payment	Employer Purchase Payment	Change in Actuarial Accrued Liability	Gain/(Loss) to Plan
	19415	Minneapolis	1.00000	$8,702	$0	$6,753	$1,949
	19484	Minneapolis	3.00000	$27,089	$0	$29,810	($2,721)
	19378	Minneapolis	1.00000	$9,801	$0	$5,113	$4,688
	19683	Minneapolis	6.00000	$41,268	$0	$50,350	($9,082)
	16615	Minneapolis	1.00000	$26,142	$0	$16,018	$10,124
	14409	Minneapolis	1.00000	$62,542	$0	$24,683	$37,859
	12833	Minneapolis	1.00000	$21,558	$0	$21,066	$492
	15354	Minneapolis	2.00000	$42,568	$0	$55,233	($12,665)
	25909	Minneapolis	3.00000	$28,987	$0	$19,042	$9,945
Active subtotal:				**$1,137,169**	**$0**	**$955,119**	**$182,050**
Deferred Vested Members:	None			$0	$0	$0	$0
Deferred Vested subtotal:				**$0**	**$0**	**$0**	**$0**
Retired Members:	7611	Minneapolis	1.00000	$10,030	$0	$18,615	($8,585)
Retired subtotal:				**$10,030**	**$0**	**$18,615**	**($8,585)**
TOTAL (MTRFA)				**$1,147,199**	**$0**	**$973,734**	**$173,465**

TABLE 1-E: ANALYSIS OF SERVICE CREDIT PURCHASES MADE IN PERIOD ENDING JUNE 30, 2002

St. Paul Teachers Retirement Plan

	Employee Number	Employer Unit	Amount of Service Purchased	Employee Purchase Payment	Employer Purchase Payment	Change in Actuarial Accrued Liability	Gain/(Loss) to Plan
Active Members:	8838	St. Paul	2.30000	$49,472	$0	$40,261	$9,211
	16455	St. Paul	0.90000	$7,307	$0	$8,328	($1,021)
	15609	St. Paul	1.00000	$14,232	$0	$9,901	$4,331
	21362	St. Paul	10.00000	$73,452	$0	$83,642	($10,190)
	17642	St. Paul	0.26000	$2,148	$0	$693	$1,455
	11705	St. Paul	2.00000	$47,691	$0	$41,723	$5,968
	11067	St. Paul	4.00000	$45,944	$0	$75,799	($29,855)
	17953	St. Paul	5.00000	$37,743	$0	$50,779	($13,036)
	20436	St. Paul	0.05000	$123	$0	$64	$59
	8091	St. Paul	0.36667	$3,300	$0	$7,592	($4,292)
	20429	St. Paul	0.19000	$421	$0	$2,607	($2,186)
	9592	St. Paul	0.47778	$5,782	$0	$6,579	($797)
	9083	St. Paul	1.23056	$34,555	$0	$37,272	($2,717)
	19591	St. Paul	0.08000	$319	$0	$169	$150
	15933	St. Paul	1.00000	$7,903	$0	$9,394	($1,491)
	9484	St. Paul	0.63889	$10,271	$0	$10,643	($372)
	20430	St. Paul	0.19000	$444	$0	$82	$362
	13481	St. Paul	0.20000	$3,413	$0	$2,087	$1,326
	9104	St. Paul	0.24444	$218	$0	$5,351	($5,133)
	13017	St. Paul	1.95000	$35,407	$0	$30,337	$5,070
	23610	St. Paul	0.19000	$459	$0	$3,180	($2,721)
	13188	St. Paul	2.00000	$34,498	$0	$38,929	($4,431)
	20391	St. Paul	0.12000	$353	$0	$80	$273
	22753	St. Paul	0.47000	$1,155	$0	$2,319	($1,164)
	18812	St. Paul	4.00000	$44,670	$0	$48,013	($3,343)
	19841	St. Paul	2.18000	$24,008	$0	$18,505	$5,503
	22530	St. Paul	4.00000	$10,642	$0	$16,625	($5,983)
	14543	St. Paul	0.70000	$11,924	$0	$7,857	$4,067

TABLE 1-E: ANALYSIS OF SERVICE CREDIT PURCHASES MADE IN PERIOD ENDING JUNE 30, 2002

St. Paul Teachers Retirement Plan

	17856	St. Paul	10.00000	$86,898	$0	$98,006	($11,108)
	20822	St. Paul	3.00000	$10,943	$0	$16,054	($5,111)
Active subtotal:				**$605,695**	**$0**	**$672,871**	**($67,176)**
Deferred Vested Members:	2886	St. Paul	0.50555	$14,978	$0	$18,242	($3,264)
Deferred Vested subtotal:				**$14,978**	**$0**	**$18,242**	**($3,264)**
Retired Members:	13747	St. Paul	3.00000	$33,315	$0	$44,693	($11,378)
	7435	St. Paul	0.48889	$9,494	$0	$74,312	($64,818)
	10397	St. Paul	2.00000	$35,271	$0	$35,816	($545)
	8434	St. Paul	0.02778	$418	$0	$59,515	($59,097)
Retired subtotal:				**$78,498**	**$0**	**$214,336**	**($135,838)**
TOTAL (SPTRA)				**$699,171**	**$0**	**$905,449**	**($206,278)**

TABLE 1-E: ANALYSIS OF SERVICE CREDIT PURCHASES MADE IN PERIOD ENDING JUNE 30, 2002

Minneapolis Employees Retiremet Fund

	Employee Number	Employer Unit	Amount of Service Purchased	Employee Purchase Payment	Employer Purchase Payment	Change in Actuarial Accrued Liability	Gain/(Loss) to Plan
Active Members:	A30248	Minneapolis	2.00000	$67,184	$0	$27,327	$39,857
Active subtotal:				**$67,184**	**$0**	**$27,327**	**$39,857**
Deferred Vested Members:	None						
Deferred Vested subtotal:				**$0**	**$0**	**$0**	**$0**
Retired Members:	None						
Retired subtotal:				**$0**	**$0**	**$0**	**$0**
TOTAL (MERF)				**$67,184**	**$0**	**$27,327**	**$39,857**

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 of a plan. 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, 2002 Actuarial Valuation, we highlight the following:

Public Employees (Chapter 353):

- The PERA student membership provision is revised to exclude all students who are attending classes on a full-time basis if the student is under age 23.
- PERA's allowable service credit provision is revised to eliminate service credit proration for part-time employment for post December 31, 2001 hirees.
- Kanabec Hospital is added to Chapter 353F subject to local approval and an actuarial gain calculation (Kanabec employees have been included in this valuation pending these actions).

Police and Fire (Chapter 353): None.

Local Government Correctional Service (Chapter 353E):

- A scheduled increase in the contribution rates for Members and the Employer was repealed this year.

State Employees (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):

- Effective July 1, 2002, 655 charter school teachers who were previously covered under a First Class City Teacher Retirement Fund are now covered by TRA. These Members enter TRA on July 1, 2002 with no prior service. Future benefits payable under TRA are based solely on credited service earned on and after July 1, 2002.

Duluth Teachers (Chapter 354A):

- Effective July 1, 2002, 122 charter school teachers are no longer covered by DTRFA. Active charter school teachers retain their rights to benefits earned in DTRFA through June 30, 2002 as if they were former Members with a termination of employment on June 30, 2002. Effective July 1, 2002, these 122 charter school Members are transferred to TRA.
- A change in the expected amount of state aid has occurred with DTRFA. Since the DTRFA's Accrued Liability Funding Ratio exceeded TRA's Accrued Liability Funding Ratio as of July 1, 2001, the state aid normally provided to DTRFA shall be reallocated to the other first class city teachers funds. This results in a decrease in the amount of state aid for DTRFA.

St. Paul Teachers (Chapter 354A):

- Effective July 1, 2002, 359 charter school teachers are no longer covered by StPTRFA. Active charter school teachers retain their rights to benefits earned in StPTRFA through June 30, 2002 as if they were former Members with a termination of employment on June 30, 2002. Effective July 1, 2002, these 359 charter school Members are transferred to the TRA.
- An administrative expense assessment otherwise payable under law will not be assessed if the administrative expenses of StPTRFA do not exceed the July 1, 2001 administrative expense amount adjusted for inflation.
- A change in the expected amount of state aid has occurred with StPTRFA. Since the DTRFA's Accrued Liability Funding Ratio exceeded TRA's Accrued Liability Funding Ratio as of July 1, 2001, the state aid normally provided to DTRFA shall be reallocated to the other first class city teachers funds. This results in an increase in the amount of state aid for StPTRFA.

Minneapolis Teachers (Chapter 354A):

- Effective July 1, 2002, 174 charter school teachers are no longer covered by MTRFA. Active charter school teachers retain their rights to benefits earned in MTRFA through June 30, 2002 as if they were former Members with a termination of employment on June 30, 2002. Effective July 1, 2002, these 174 charter school Members are transferred to the TRA.
- An administrative expense assessment otherwise payable under law will not be assessed if the administrative expenses of MTRFA do not exceed the July 1, 2001 administrative expense amount adjusted for inflation.
- A change in the expected amount of state aid has occurred with MTRFA. Since the DTRFA's Accrued Liability Funding Ratio exceeded TRA's Accrued Liability Funding Ratio as of July 1, 2001, the state aid normally provided to DTRFA shall be reallocated to the other first class city teachers funds. This results in an increase in the amount of state aid for MTRFA.

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.

The *first category* 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.

The *second category* 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 policemen), 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).

The *third category* 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 to specific benefit forms, etc. These assumptions need to be monitored so that they remain consistent with the plan provisions which are in effect.

In Tables III-A, III-B and III-C, we have prepared a summary of some of the assumptions being used by each plan in all three categories. For a comprehensive review of all assumptions being used for a particular plan, please refer to the July 1, 2002 Actuarial Valuation for that Fund.

In our opinion the assumptions used for July 1, 2002 valuations are reasonable and well within the mainstream of current actuarial practice. Experience during the 1996-2000 (1992-2000 for the First Class City Teacher Retirement Funds) period has been analyzed for the three large statewide plans and for the three First Class City Teacher Retirement Funds. Also, a comprehensive study of the effects of the Combined Service Annuity provisions has been completed for all 14 of the Minnesota retirement funds summarized in this report. The approved changes in the assumptions for all of these 14 plans have been included in the July 1, 2002 actuarial valuations.

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, in a manner similar to that already being used within the MPRIF. The previous method required under Minnesota Statutes recognized one third of the unrealized gains and losses. 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 intent of the change to the current method is to employ a more effective asset smoothing technique which is market-value based and which eliminates artificial bias related to manager style. The effective date of this requirement is July 1, 2000 with full transition to be accomplished as of July 1, 2003.

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

> Market Value of Assets at June 30, 2002, *less*
>
> 80% 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); *less*
>
> 60% of the current year Unrecognized Asset Return at July 1, 2001 (the difference between actual net return on Market Value of Assets between June 30, 2000 and June 30, 2001 and the asset return expected during that period based on the assumed interest rate employed in the July 1, 2000 Actuarial Valuation); *less*
>
> 40% of the current year Unrecognized Asset Return at July 1, 2000 (the difference between actual net return on Market Value of Assets between June 30, 1999 and June 30, 2000 and the asset return expected during that period based on the assumed interest rate employed in the July 1, 1999 Actuarial Valuation); *less*
>
> 10% of the Unrecognized Asset Return at July 1, 1999 (the difference between Market Value of Assets on June 30, 1999 and the Actuarial Value of Assets used in the July 1, 1999 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. Prior to July 1, 2000, some of the funds did not amortize the surplus amount, while others amortized to a fixed amortization date.

TABLE III-A: JULY 1, 2002 ACTUARIAL ASSUMPTIONS - CATEGORY 1

(Highlighted box indicates change from prior year.)

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	N/A	2.5% Implied by 6.0% Interest Rate
State Employees (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
Legislators (Chapter 3A)	8.5%/5.0%	Statutory salary, Then 5.0%	N/A	3.5% Implied by 5.0% Interest Rate
Elective State Officers (Chapter 352C)	8.5%/5.0%	Statutory Salary, Then 5.0%	N/A	3.5% Implied by 5.0% 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% Implied by 6.5% Interest Rate
St. Paul Teachers (Chapter 354A)	8.5%/8.5%	(2)/Reported Salary Increased	N/A	2% Per Annum
Minneapolis Teachers (Chapter 354A)	8.5%/8.5%	(2)/Reported Salary Increased	N/A	2% Per Annum
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, 2002 ACTUARIAL ASSUMPTIONS - CATEGORY 2

(Highlighted box indicates change from prior year.)

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: .05% @ 35 .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 5 years	Graded: .19% @ 35 1.35% @ 55	Graded from age 50	Graded: 1.83% @ 35 .11% @ 55
Local Government Correctional Service (Chapter 353E)	1983 GAM Male set back 1 year	Graded: .11% @ 35 .88% @ 55	Graded from age 50	Graded: 6.00% @ 35 1.40% @ 55
State Employees (Chapter 352)	1983 GAM Male set back 5 years	Graded: .03% @ 35 .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: .11% @ 35 .88% @ 55	Graded from age 50	Graded: 0.70% @ 35 0.00% @ 55
Correctional (Chapter 352)	1983 GAM Male set back 1 year	Graded: .11% @ 35 .88% @ 55	Graded from age 50	Graded: 6.00% @ 35 1.40% @ 55
Legislators (Chapter 3A)	1983 GAM Male set back 4 years	None	Age 62	Varies based upon service; 0% @ 9 years
Elective State Officers (Chapter 352C)	1983 GAM Male set back 4 years	None	Age 62	Varies based upon service; 0% @ 9 years
Judges (Chapter 490)	1983 GAM Male set back 4 years	Graded: .02% @ 35 .34% @ 55	Graded from age 62	None
Teachers (Chapter 354)	1983 GAM Male set back 12 years	Graded: .01% @ 35 .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: .01% @ 35 .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: .03% @ 35 .50% @ 55	Graded from age 55	Select and ultimate graded
Minneapolis Teachers (Chapter 354A)	1983 GAM Male set back 12 years	Graded: .01% @ 35 .15% @ 55	Graded from age 55	Select and ultimate graded
Minneapolis Employees (Chapter 422A)	1986 Projected Exp. Table set back 1 year	Graded: .30% @ 35 1.60% @ 55	Age 61	Graded: 1.50% @ 35 1.00% @ 55

TABLE III-B: JULY 1, 2002 ACTUARIAL ASSUMPTIONS - CATEGORY 2

(Highlighted box indicates change from prior year.)

Fund	Post-Retirement Mortality Table (Male rates shown)	Post-Retirement Mortality Table (Female rates shown)	Post-Disability Mortality Table (Male rates shown)	Post-Disability Mortality Table (Female rates shown)
Public Employees (Chapter 353)	1983 GAM Male set back 1 year	1983 GAM Female set back 1 year	1965 RRB thru age 54. Graded to Post-Retirement table at age 65.	1965 RRB thru age 54. Graded to Post-Retirement table at age 65.
Police and Fire (Chapter 353)	1983 GAM Male	1983 GAM Female	1965 RRB	1965 RRB
Local Government Correctional Service (Chapter 353E)	1983 GAM Male set forward 2 years	1983 GAM Female set forward 2 years	Combined Annuity Mortality Table	Combined Annuity Mortality Table
State Employees (Chapter 352)	1983 GAM Male set back 2 years	1983 GAM Female set back 1 year	1965 RRB thru age 54. Graded to Post-Retirement table at age 65.	1965 RRB thru age 54. Graded to Post-Retirement table at age 65.
State Patrol (Chapter 352B)	1983 GAM Male set forward 2 years	1983 GAM Female set forward 2 years	Combined Annuity Mortality Table	Combined Annuity Mortality Table
Correctional (Chapter 352)	1983 GAM Male set forward 2 years	1983 GAM Female set forward 2 years	Combined Annuity Mortality Table	Combined Annuity Mortality Table
Legislators (Chapter 3A)	1983 GAM Male	1983 GAM Female	N/A	N/A
Elective State Officers (Chapter 352C)	1983 GAM Male	1983 GAM Female	N/A	N/A
Judges (Chapter 490)	1983 GAM Male	1983 GAM Female	Combined Annuity Mortality Table	Combined Annuity Mortality Table
Teachers (Chapter 354)	1983 GAM Male set back 6 years	1983 GAM Female set back 3 years	1965 RRB thru age 54. Graded to Post-Retirement table at age 65.	1965 RRB thru age 54. Graded to Post-Retirement table at age 65.
Duluth Teachers (Chapter 354A)	1983 GAM Male set back 2 years	1983 GAM Female	1977 RRB	1977 RRB
St. Paul Teachers (Chapter 354A)	1983 GAM Male set back 3 years	1983 GAM Female set back 1 year	1977 RRB	1977 RRB
Minneapolis Teachers (Chapter 354A)	1983 GAM Male set back 4 years	1983 GAM Female set back 1 year	1977 RRB	1977 RRB
Minneapolis Employees (Chapter 422A)	1986 Projected Exp. Table set back 1 year	1986 Projected Exp. Table set back 1 year	1986 Projected Exp. Table set back 1 year	1986 Projected Exp. Table set back 1 year

TABLE III-C: JULY 1, 2002 ACTUARIAL ASSUMPTIONS - CATEGORY 3

(Highlighted box indicates change from prior year.)

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
State Employees (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
Legislators (Chapter 3A)	85%/85% married; two children	Prior year as % of payroll	None	$4,800 per diem income 0%/30% load on liabilities for Members/former Members for Combined Service Annuities
Elective State Officers (Chapter 352C)	85%/85% married; two children	Prior year as % of payroll	None	No refunds after 8 years 0%/30% load on liabilities for Members/former Members for Combined Service Annuities

TABLE III-C: JULY 1, 2002 ACTUARIAL ASSUMPTIONS - CATEGORY 3

(Highlighted box indicates change from prior year.)

Fund	Family Composition (Male/Female)	Expenses (Admin. Only)	Bounceback Annuity Election (Male/Female)	Other
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
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 - 8.50%) 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

Alternative Analysis of Funded Status

The dollar-weighted rates of return on the market value of assets for the Basic Funds over the two prior fiscal years have been losses of approximately 7.25% and 8%, respectively. The rates of return on the market value of assets for the funds that are not managed by the State Board of Investments have also been negative each year ranging from approximately -3.6% each year for St. Paul Teachers to over –11% each year for Minneapolis Teachers. These asset losses have serious short-term and long-term implications for the funded status of retirement plans. This Appendix A will explore these implications further. The Tables A-1 through A-4 use the statutory definitions of actuarial value and market value of assets, i.e. the market value includes the "required reserve" for the MPRIF (RBF for MERF) rather than the market value. The implications of the asset losses on the investment-based COLAs is discussed in more detail below.

Current Funded Status

Currently, all of the retirement funds included in this report have sufficient assets to pay benefits to annuitants for the next several years. The only fund that has a credible threat to the fund's ability to pay benefits in the near future is the Minneapolis Teachers Retirement Fund Association. Absent further investment losses, this fund may be expected to have sufficient assets to pay benefits when due for at least the next 10 years. Consequently, action to "bail out" any of the retirement funds is not a critical necessity at this time.

As of July 1, 2002, the asset valuation method produces an actuarial value of assets that is greater than market value of assets for most of the plans. The relationship between the actuarial value of assets and the market value of assets is presented in Table A-1. The separate presentation of the First Class City Teacher funds from the other funds is due to the different mechanisms for determining the investment based COLAs. These separate mechanisms and the implications of the asset losses are discussed in greater detail below.

All plan benefits and expenses must be paid for through contributions to the plan and investment earnings on assets held by the plan. In a defined benefit plan, plan costs are not known until after all benefits have been paid to the last benefit recipient. In order to assign plan costs to specific time periods, an actuarial valuation is performed. We measure funding status and/or progress in order to achieve equity between generations of taxpayers and members (generational equity). One aspect of generational equity is to determine a relatively stable and predictable level of costs that will accumulate sufficient funds to pay benefits when they are due.

A portion of the allocation of the plan costs is the valuation of the fund's assets. Plan sponsors typically invest plan funds in asset classes that are expected to generate an adequate long-term rate of return. In order to achieve higher returns, plan sponsors must accept higher risk. This higher risk generally manifests itself in short-term variations in the market value of assets. Since the pension plan liabilities are a long-term commitment and one of the funding goals is to produce a relatively stable measure of plan costs, the value that the actuary places on the plan assets to determine plan costs is often smoothed in order to reduce effects of the short-term asset volatility on long-term plan costs.

As is illustrated in Table A-1, the actuarial value of assets exceeds the market value of assets for all of the funds included in these tables. One question that may occur is "What is the right measure of the fund assets?" We assert that neither measure of assets is necessarily "right" or "wrong." Even in retrospect, one cannot really "know" what the appropriate value of a given asset is or was except at the time it is liquidated to satisfy a given liability. Nonetheless, given the significant difference it is prudent to examine the implications of the lower market value.

Implications of Asset Losses on Investment-based COLAs

Generally, the Minnesota retirement funds provide two types of Cost of Living Adjustments (COLAs.) The first type is related to price inflation, and the second type is related to investment performance. There are two variations in the calculation of the investment based COLA: funds that have a separate post-retirement fund such as the Minnesota Post-Retirement Investment Fund (MPRIF) and funds that do not have a segregated post-retirement fund. These two types of funds have different methods for determining the amount of the investment based COLA, and these different allocation methods have different implications for future COLAs and future funding requirements.

Plans With Separate Post-retirement Funds

The statutory mechanism for determining the amount of the COLA for plans that have a separate post-retirement fund uses a 5-year asset smoothing technique that is similar to the smoothing method used in the actuarial valuation. When the smoothed value of asset gains and (losses) is positive, an investment based COLA is payable. After the last two fiscal years of negative asset returns, the smoothed value of asset gains and (losses) is negative. Consequently, no investment based COLAs are payable. This statutory mechanism requires that the negative value of the smoothed gains and (losses) be carried forward to future years prior to determining if any investment based COLA is payable. Due to the size of the last two years of investment losses, this "negative carry forward" is very large. Consequently, we expect that the only COLA adjustments that will be payable in the foreseeable future for these plans will be the inflation component.

We note that the market value of assets in the post-retirement funds is less than the actuarially required reserve for all of the funds. As discussed in the previous section, all of the plans with a separate post-retirement fund have sufficient assets to pay benefits to annuitants for the next several years. If assets continue to decline, then at some point there may be a nonzero probability that the plans will not be able to pay benefits when due. It is our understanding that there is currently no statutory mechanism that addresses this situation. In the unlikely event that such a situation were to develop, there would be three possible ways to handle this situation:

1. Provide for a transfer of funds from the plan's Basic fund to the post-retirement fund.
2. Provide for a transfer of funds from the State.
3. Reduce or eliminate benefits to annuitants.

We do not believe that the funding levels in the post-retirement funds are low enough to warrant any action at this time. We will continue to monitor these funds over the next year.

Plans Without Separate Post-retirement Funds

The First Class City Teacher funds also provide investment-based COLAs. The statutory mechanism to provide investment based COLAs in these funds is based on the five-year average rate of return of the entire fund. If the average return exceeds the actuarially assumed investment rate (8.5%), then an investment based COLA is payable. Given the negative rate of return of the last two fiscal years and the generally lower expected returns on equities, we expect that there will be no investment based COLAs in these funds for the next 4 years. Unlike the plans with a separate post-retirement fund, the statutory mechanism in First Class City Teacher funds has no provision to recover the asset losses before any investment based COLAs are granted. Consequently, it is possible that these plans will provide increases to retirees that will be paid by current members and taxpayers. If these circumstances occur, then the funded status of these plans will deteriorate (perhaps rapidly.) Of particular concern is Minneapolis Teachers. The retired life liability in this plan currently exceeds its assets. The negative returns of the last two years likely assure that the 5-year average return will be less than 8.5% for the next year or two. Since retiree benefits are not reduced in these situations, this situation assures that there will be "negative" dividend amounts that are never recovered, thus further exacerbating a very poor funding position.

Future Funding Implications

In the last two fiscal years, the funds have experienced significant asset losses. Under the asset smoothing method that is prescribed by Minnesota Statutes, the recognition of these losses is spread over five years. This deferred recognition means that the asset losses from the 2001 and 2002 fiscal years will contribute to actuarial losses in future years. Unless the funds earn investment returns that are substantially higher than the assumed 8.5% rate, recognized asset experience will be a loss. Table A-2 shows the expected asset loss that will be recognized in the July 1, 2003 actuarial valuation if the active portion of the respective fund earns exactly 8.5% on a market value basis.

If the current market value of assets is considered to be more representative of the long-term value of plan assets, then the funded status of the plans is much worse than is presented in the official July 1, 2002 actuarial valuations. Table A-3 shows the accrued liability funded ratio for each fund on both an actuarial value of assets and on a market value of assets basis. As can be seen in these tables, all of the funds have lower funded ratios on a market value basis and only PERA Police & Fire and MSRS State Patrol have an accrued liability funded ratio in excess of 100%.

Similarly in Table A-4, we show a rough calculation of what the sufficiency/(deficiency) measure would be if we fully recognized current market values at July 1, 2002. In making these calculations, we did not consider any possible change in amortization periods for those plans that currently have positive unfunded actuarial liabilities. For those that would switch from negative to positive, we used a 30-year amortization factor.

As noted earlier, we cannot know with certainty which set of numbers presents a more realistic assessment of the current funded status of these plans. It is likely that the "right" answer is somewhere in between these results, but even that is not a certain conclusion. We believe that it is prudent to consider both before taking any legislative action. While appropriate steps are encouraged, considering a range of results should help to avoid any under or over reaction to the situation.

Table A-1

June 30, 2002 – Relationship of Current Assets to Market Value of Assets

($ in Thousands)

	Current Assets	Market Value	Ratio
Plans With Segregated Post-Funds			
PERA – General	$11,017,414	$10,032,586	110%
PERA – Police & Fire	4,707,255	4,158,060	113
PERA – Local Correctional	40,105	34,911	115
MSRS – State Employees	7,673,028	6,769,942	113
MSRS – State Patrol	591,383	538,731	110
MSRS – Correctional	457,416	405,390	113
MSRS – Judges	131,379	125,432	105
TRA	17,378,994	15,853,044	110
MERF	1,540,221	1,492,740	103
Plans Without Segregated Post-Funds			
DTRFA	$ 280,515	234,371	120%
MTRFA	1,027,883	770,489	133
StPTRFA	899,572	776,086	116

Table A-2

Deferred Asset Losses That Will Be Recognized July 1, 2003

	($ in thousands)
Plans With Segregated Post-Funds	
PERA – General	$(326,559)
PERA – Police & Fire	(182,048)
PERA – Local Correctional	(1,869)
MSRS – State Employees	(297,740)
MSRS – State Patrol	(17,309)
MSRS – Correctional	(16,664)
MSRS – Judges	(2,004)
TRA	(500,261)
MERF	(14,245)
Plans Without Segregated Post-Funds	
DTRFA	(11,924)
MTRFA	(88,140)
StPTRFA	(37,675)

Table A-3

July 1, 2002 – Actuarial Accrued Liability Funding Ratios

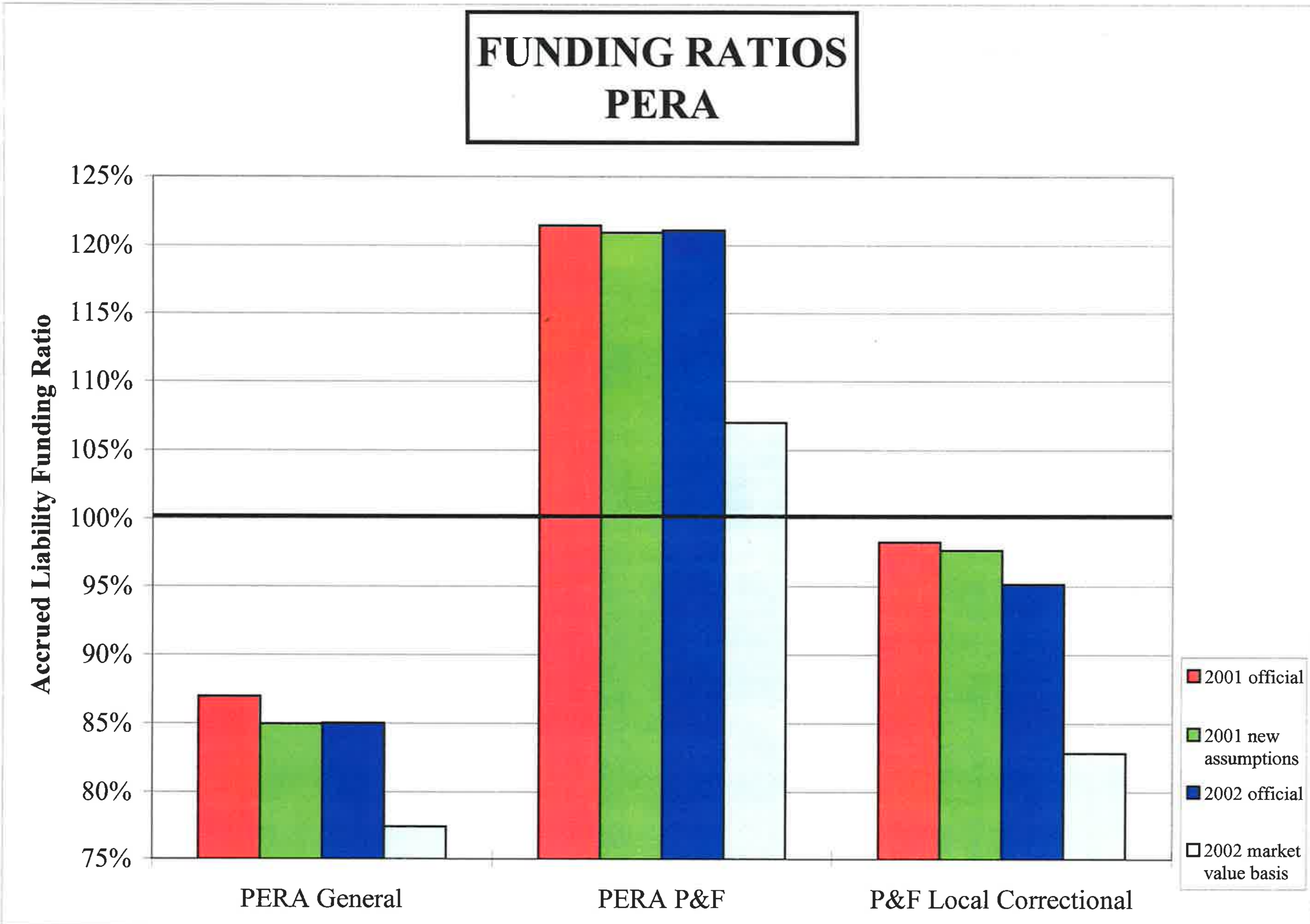
	Current Asset Basis	Market Value Basis
Plans With Segregated Post-Funds		
PERA – General	85.02%	77.42%
PERA – Police & Fire	121.12	106.99
PERA – Local Correctional	95.16	82.84
MSRS – State Employees	104.53	92.23
MSRS – State Patrol	115.88	105.56
MSRS – Correctional	102.46	90.81
MSRS – Judges	76.42	72.96
TRA	105.31	96.06
MERF	92.35	89.50
Plans Without Segregated Post-Funds		
DTRFA	100.39	83.88
MTRFA	61.94	46.43
StPTRFA	78.82	68.00

Table A-4

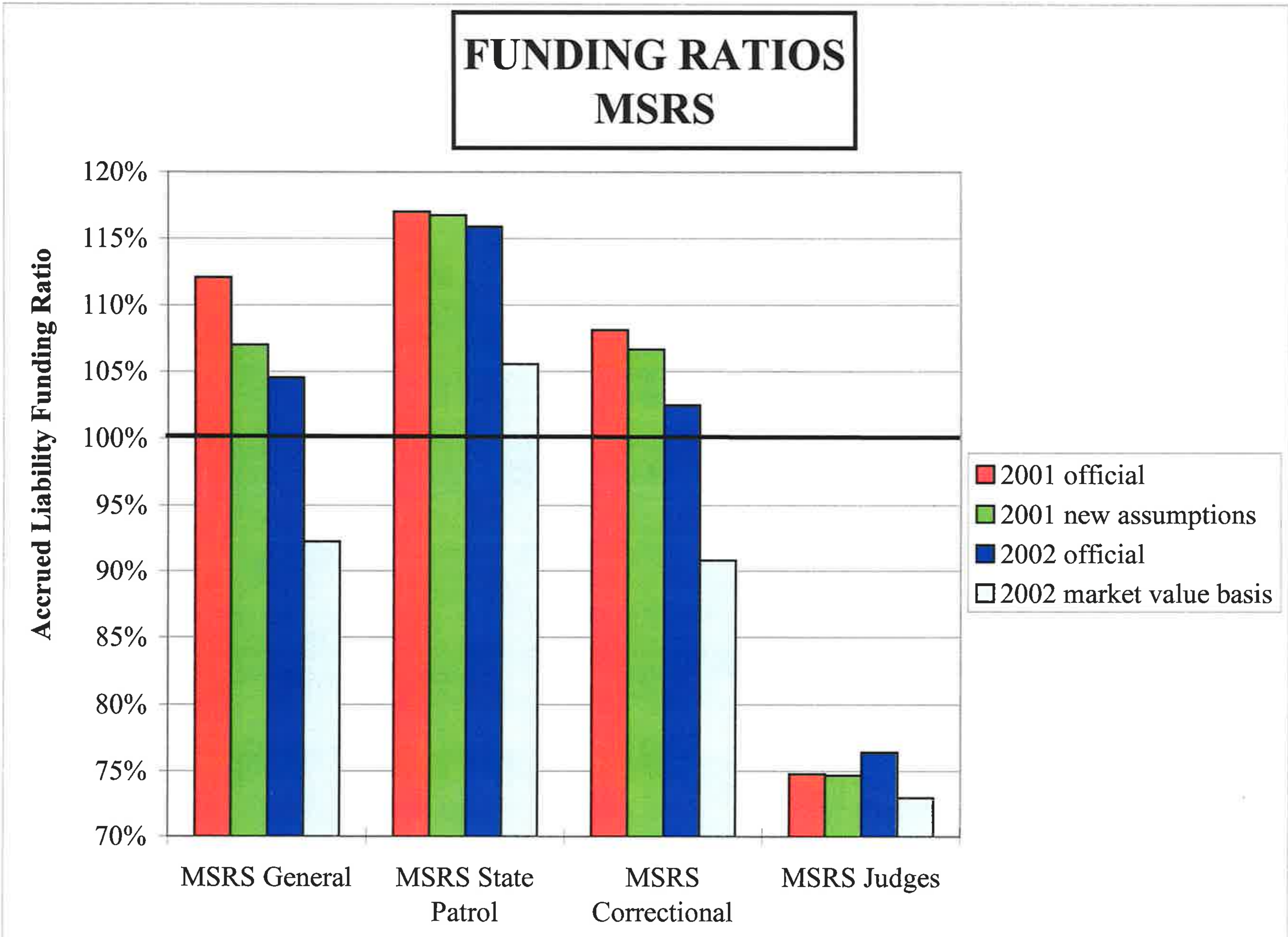
2002-03 Contribution Sufficiency/(Deficiency) Measure

	Current Asset Basis	Market Value Basis
Plans With Segregated Post-Funds		
PERA – General	(0.57)%	(1.78)%
PERA – Police & Fire	2.42	(2.44)
PERA – Local Correctional	0.49	0.19
MSRS – State Employees	(0.34)	(2.73)
MSRS – State Patrol	6.66	1.15
MSRS – Correctional	(1.06)	(3.19)
MSRS -- Judges	1.68	0.23
TRA	2.43	(0.27)
MERF	(0.01)	(9.67)
Plans Without Segregated Post-Funds		
DTRFA	1.44	(3.49)
MTRFA	(6.52)	(13.82)
StPTRFA	(1.50)	(5.68)

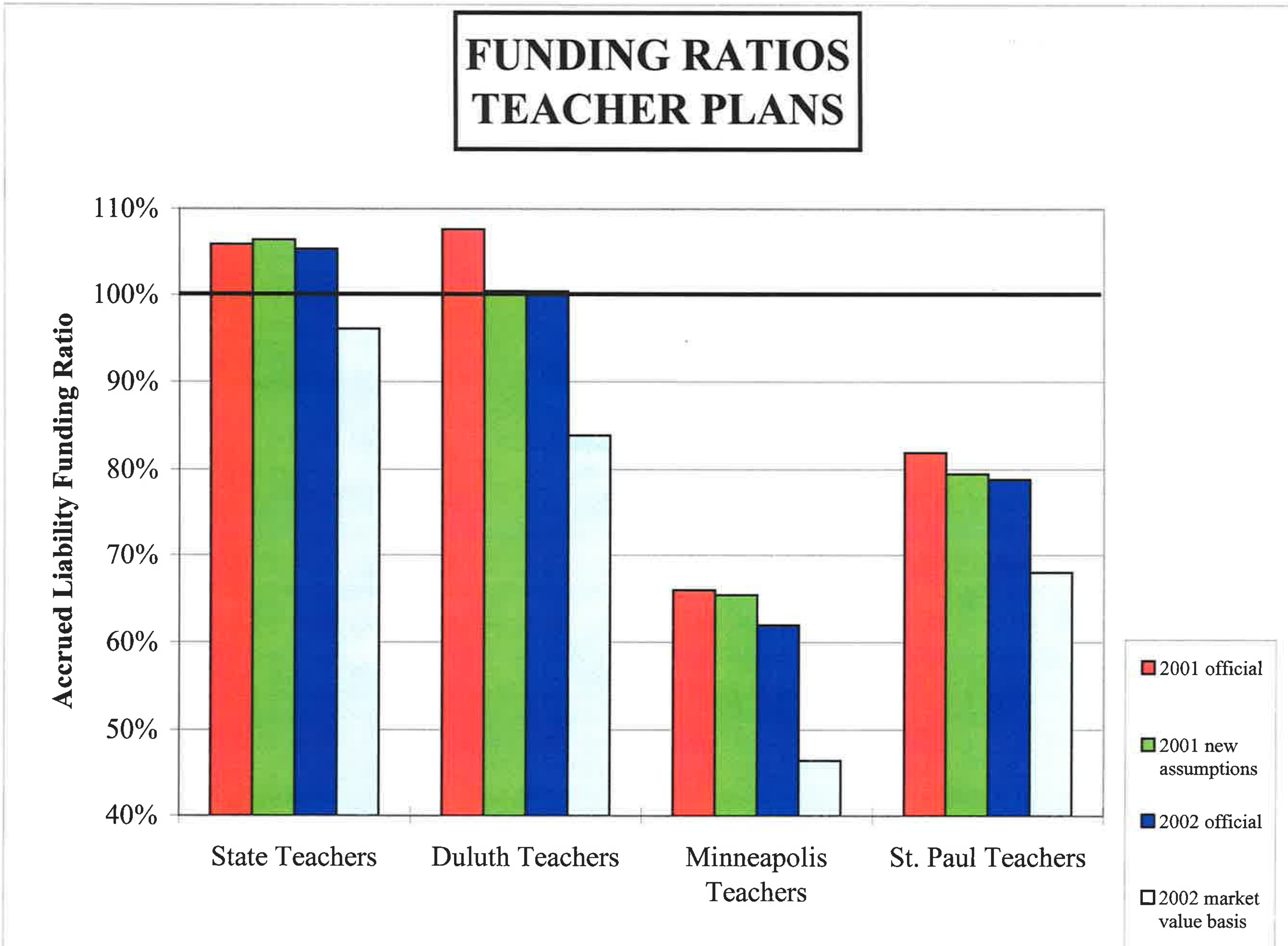
SUMMARY CHARTS OF LIABILITY FUNDING RATIOS

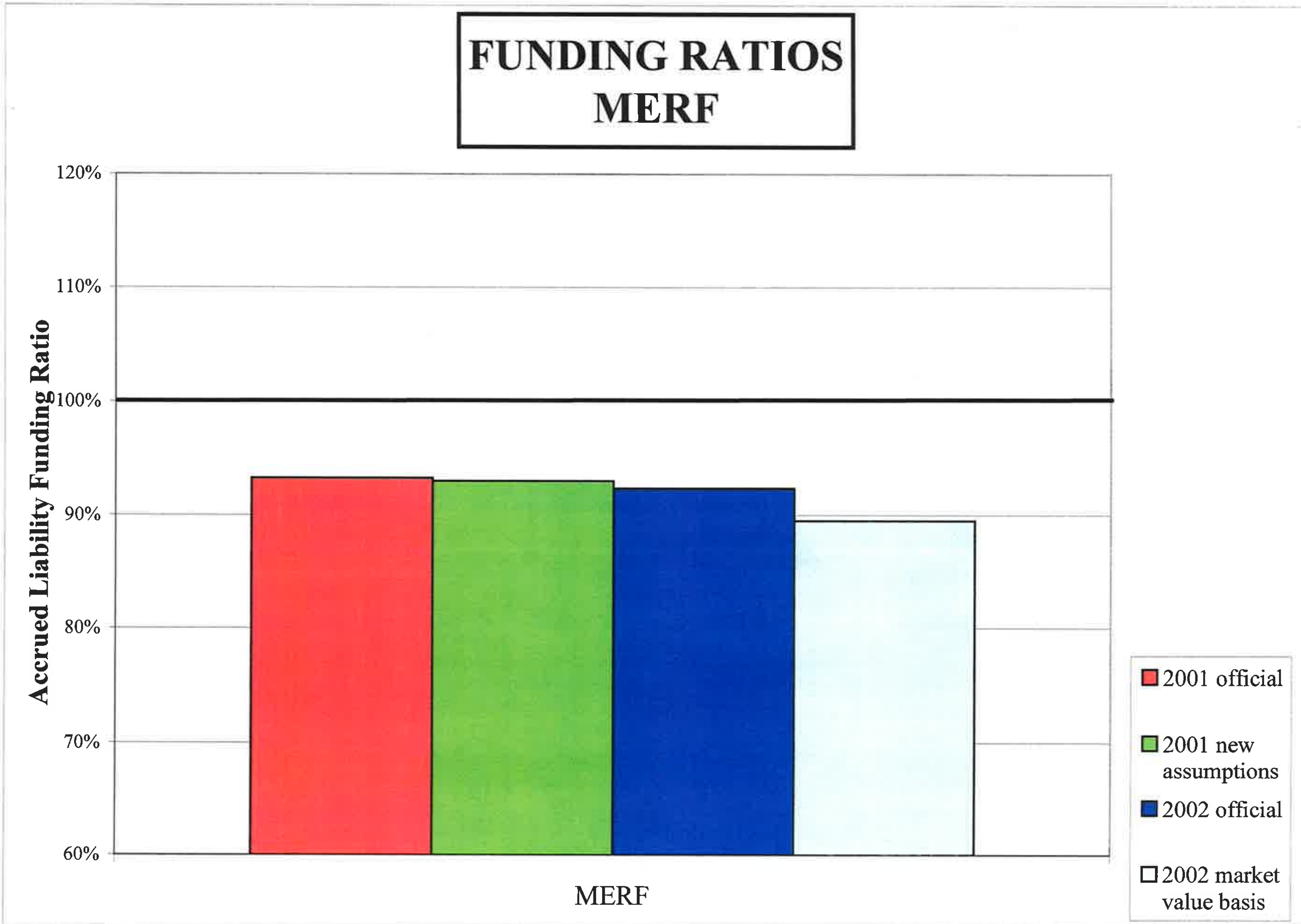


FUNDING RATIOS
PERA
125%
120%
115%
110%
105%
100%
95%
90%
85%
80%
75%
Accrued Liability Funding Ratio
PERA General
PERA P&F
P&F Local Correctional
2001 official
2001 new assumptions
2002 official
2002 market value basis



FUNDING RATIOS
MSRS
Accrued Liability Funding Ratio
120%
115%
110%
105%
100%
95%
90%
85%
80%
75%
70%
MSRS General
MSRS State Patrol
MSRS Correctional
MSRS Judges
2001 official
2001 new assumptions
2002 official
2002 market value basis


FUNDING RATIOS
TEACHER PLANS
Accrued Liability Funding Ratio
110%
100%
90%
80%
70%
60%
50%
40%
State Teachers
Duluth Teachers
Minneapolis Teachers
St. Paul Teachers
2001 official
2001 new assumptions
2002 official
2002 market value basis


FUNDING RATIOS
MERF
Accrued Liability Funding Ratio
120%
110%
100%
90%
80%
70%
60%
MERF
2001 official
2001 new assumptions
2002 official
2002 market value basis