STATE OF MINNESOTA

Summary of 2000 Actuarial Valuations

Presented by:

Milliman & Robertson, Inc.

MILLIMAN & ROBERTSON, INC.
Actuaries & Consultants

Internationally WOODROW MILLIMAN

Suite 400, 15800 Bluemound Road, Brookfield, Wisconsin 53005-6069
Telephone: 262/784-2250
Fax: 262/784-7287

January 5, 2001

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, 2000 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 2000-2001 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.

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 & ROBERTSON, INC.

Thomas K. Custis, F.S.A.
Consulting Actuary

William V. Hogan, F.S.A.
Consulting Actuary

TKC/WVH/bh

STATE OF MINNESOTA

SUMMARY OF 2000 ACTUARIAL VALUATIONS

Table of Contents

I. 2000-2001 FUNDING LEVELS

(Tables 1-A, 1-B, 1-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%.

Effective with the July 1, 2000 actuarial valuations, the following funding method changes have been incorporated:

- Asset Valuation Method is changed to employ a more effective asset smoothing technique which is market-value based and which eliminates artificial bias related to manager style.
- The actuarial funding method was modified to reflect a 30-year amortization credit of the surplus of the Actuarial Value of Assets over the Actuarial Accrued Liability.

Below we comment by plan on our analysis of the actuarial valuations.

PERA

1. An entire new set of actuarial assumptions based on the 1992-96 experience study was adopted for use in this valuation. These new assumptions significantly increased the unfunded actuarial accrued liability. The revised asset valuation method further increased the unfunded actuarial accrued liability by a modest amount.

   The Public Employees plan experienced a modest decrease in participation. There was approximately 1.4% less active members in our July 1, 2000 valuation than in our July 1, 1999 valuation. Plan assets generated a significant gain over this twelve-month period. However, this plan now shows a substantial deficiency as statutory contribution rates are significantly lower than required contributions. We recommend that corrective action be taken by the legislature to deal with this deficit situation.

2. The Police and Fire plan continues to be in a well-funded position. The revised asset valuation method increased the unfunded actuarial accrued liability by a modest amount. Statutory contributions are substantially below ongoing normal costs. However, the revised actuarial methods should help to alleviate the possibility of dramatic swings in required contributions over the next several years.

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 as of June 30, 2000.

4. The Local Government Correctional plan is a new plan that was first effective July 1, 1999. The modest sufficiency is due mainly to gains occurring because salary increases were less than assumed.

MSRS

5. An entire new set of actuarial assumptions based on the 1992-96 experience study was adopted for use in this valuation. These new assumptions modestly increased the unfunded actuarial accrued liability. The revised asset valuation method further increased the unfunded actuarial accrued liability by a modest amount. The improvement in the sufficiency measure is due primarily to the change in actuarial methods to recognize the negative unfunded accrued liability. The State General Employees plan shows an adequate contribution sufficiency after all these changes were made.

6. While the revised asset valuation method increased the unfunded actuarial accrued liability by a modest amount, favorable asset experience more than offset modest liability losses in the State Patrol plan. All funding ratios declined modestly as did the sufficiency measure, which is driven in large part by the revised method of recognizing the negative unfunded actuarial liability. Consideration of modest reductions in statutory contribution rates may be warranted.

7. While the Correctional Employees plan enjoyed favorable asset experience like the other plans, changes on the liability side created modest deterioration in funding ratios and in the sufficiency measure. In fact, the plan has a slight deficiency in the current valuation. New job classifications continue to be allowed to transfer into the Correctional plan (we saw a 7.5% 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. The revised asset valuation method increased the unfunded actuarial accrued liability by a modest amount. Despite this increase, the plan still has assets in excess of its actuarial accrued liability. The sufficiency measure needs to be monitored carefully, however, since the statutory contribution rates are less than ongoing normal costs of the plan.

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 modest increases in the funding ratios and a modest decrease in the sufficiency measure for the Judges plan. The revised asset valuation method and the change in plan provisions each increased the unfunded actuarial accrued liability by a modest amount. Continued funding at the current statutory rates has driven the funding ratios higher and has substantially diminished any ongoing concern relating to short-term cash shortages.

TEACHERS

10. An entire new set of actuarial assumptions based on the 1992-96 experience study was adopted for use in this valuation of the Teacher Retirement Association. These new assumptions modestly increased the unfunded actuarial accrued liability. The revised asset valuation method further increased the unfunded actuarial accrued liability by a modest amount. After these changes, the fund has a negative unfunded actuarial accrued liability. The improvement in the sufficiency measure is due primarily to the change in actuarial methods to recognize the negative unfunded accrued liability.

11. The Duluth Teachers plan showed further improvement in funding ratios and funding status. The revised asset valuation method increased the unfunded actuarial accrued liability by a modest amount. Favorable asset experience more than offset small liability losses.

12. The revised asset valuation method decreased the unfunded actuarial accrued liability in the St. Paul Teachers plan. This change is the primary reason for the improvement in the

funding ratios and the change from a deficiency to a sufficiency. This favorable assessment is contingent, of course, on the current level of State supplemental contributions.

13. The revised asset valuation method decreased the unfunded actuarial accrued liability in the Minneapolis Teachers plan. Significant liability losses led to deterioration in all funding ratios and an increase in the deficiency percentage. The deficiency percentage is large; contribution increases are warranted. Absent significant State supplemental contributions, this plan would be even more substantially deficient.

MERF

14. The Minneapolis Employees Retirement Fund also had favorable asset experience in the 1999-2000 year which was partially offset by liability losses. The State's portion of the supplemental contribution remains below its statutory maximum at about the same level as last year. Meanwhile required contribution rates for contributing employers increased approximately 2.0% of pay since amortization amounts decreased less than 5% while covered payroll decreased over 15%.

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, 2000) 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 1999-2000 year were less than the increase in liability, thus generating a small aggregate loss to the funded status of the plans in total.

Plans that need close scrutiny by the LCPR in the short term are PERA and Minneapolis Teachers. We are aware that hearings have already begun on dealing with PERA's funding deficit. We are supportive of the constructive suggestions that have surfaced and are willing to assist in any way desired to see this issue addressed. While favorable asset returns may help their situation, and subsequent experience may not be as bad as what was observed in 1992-96, it would be imprudent to totally defer corrective action based on either of these expectations.

The Minneapolis Teachers funding problem is compounded by several factors that make it likely for their deficiency measurement to 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. First of all, retirees get full credit (or nearly full credit) for excess earnings even though the plan is only 67% funded. Secondly, the excess is determined on a percentage basis not a dollar basis meaning that more dollars are granted as increases then are actually earned. The combined effect of these two factors is that the funding status of the plan is likely to be adversely impacted unless the fund earnings are exactly the assumed 8.5%.

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. Both changes made this year to the actuarial methods being employed should help to keep required contribution rates from becoming overly volatile. Nonetheless, issues which may arise include:

- What level of plan assets vs. accrued liabilities is truly "excessive"?
- What principles should be established for consideration of decreases 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?

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

TABLE 1-A: 2000-2001 FUNDING LEVELS (PERCENTAGES)

Fund	Section 356.215 Requirements				Statutory Requirements			Sufficiency/ Deficiency
	Normal Cost	Supple-mental Cost	Expense	Total	Employee	Employer	Total	
Public Employees (Chapter 353)	9.33%	2.38%	0.23%	11.94%	4.77%	5.21%	9.98%	(1.96%)
Police and Fire (Chapter 353)	19.92%	(7.38%)	0.14%	12.68%	6.20%	9.30%	15.50%	2.82%
Local Correctional (Chapter 353E)	14.26%	(0.05%)	0.16%	14.37%	5.83%	8.75%	14.58%	0.21%
State Employees (Chapter 352)	8.72%	(1.81%)	0.21%	7.12%	4.00%	4.00%	8.00%	0.88%
State Patrol (Chapter 352B)	22.55%	(7.27%)	0.20%	15.48%	8.40%	12.60%	21.00%	5.52%
Correctional (Chapter 352)	14.64%	(1.14%)	0.22%	13.72%	5.69%	7.98%	13.67%	(0.05%)
Legislators (Chapter 3A)	18.15%	37.22%	0.51%	55.88%	9.00%	Terminal Funding	N/A	N/A
Elective State Officers (Chapter 352C)**	0	338	2	340	0	Paygo Funding	N/A	N/A
Judges (Chapter 490)	16.30%	10.58%	0.15%	27.03%	8.00%	20.50%	28.50%	1.47%
Teachers (Chapter 354)	9.09%	(1.47%)	0.30%	7.92%	5.00%	5.00%	10.00%	2.08%
Duluth Teachers (Chapter 354A)	8.68%	(0.92%)	0.75%	8.51%	5.50%	6.71% *	12.21%	3.70%
St. Paul Teachers (Chapter 354A)	9.35%	6.98%	0.24%	16.57%	6.05%	11.24% *	17.29%	0.72%
Minneapolis Teachers (Chapter 354A)	10.76%	14.25%	0.24%	25.25%	6.10%	17.15% *	23.25%	(2.00%)
Minneapolis Employees (Chapter 422A)	18.11%	17.00%	1.74%	36.85%	9.75%	27.09% *	36.84%	(0.01%)

* Includes State contributions of 0.92% for Duluth Teachers, 8.20% for Minneapolis Teachers, 2.17% for St. Paul Teachers, and 5.73% for Minneapolis Employees.

** Amounts in thousands of dollars

TABLE 1-B: PATTERN OF SUFFICIENCY/DEFICIENCY: 1998-2000

Fund	Actuarial Requirements			Statutory Requirements			Sufficiency/(Deficiency)		
	1998	1999	2000	1998	1999	2000	1998	1999	2000
Public Employees	9.84%	9.44%	11.94%	10.03%	10.00%	9.98%	0.19%	0.56%	(1.96)%
Police and Fire	11.40%	11.68%	12.68%	19.00%	15.50%	15.50%	7.60%	3.82%	2.82%
Local Correctional	N/A	15.03%	14.37%	N/A	14.58%	14.58%	N/A	(0.45)%	0.21%
State Employees	7.73%	7.67%	7.12%	8.00%	8.00%	8.00%	0.27%	0.33%	0.88%
State Patrol	14.14%	13.21%	15.48%	21.00%	21.00%	21.00%	6.86%	7.79%	5.52%
Correctional	12.99%	13.31%	13.72%	13.20%	13.67%	13.67%	0.21%	0.36%	(0.05)%
Legislators	47.19%	52.72%	55.88%	T.F.	T.F.	T.F.	N/A	N/A	N/A
Elective State Officers	51.66%	321*	340*	P.G.	P.G.	P.G.	N/A	N/A	N/A
Judges	27.32%	26.75%	27.03%	28.28%	28.50%	28.50%	0.96%	1.75%	1.47%
Teachers	9.82%	9.86%	7.92%	10.00%	10.00%	10.00%	0.18%	0.14%	2.08%
Duluth Teachers	10.24%	9.16%	8.51%	12.30%	12.20%	12.21%	2.06%	3.04%	3.70%
St. Paul Teachers	18.82%	18.09%	16.57%	17.59%	17.52%	17.29%	(1.23)%	(0.57)%	0.72%
Minneapolis Teachers	25.80%	23.88%	25.25%	25.39%	23.79%	23.25%	(0.41)%	(0.09)%	(2.00)%
Minneapolis Employees	36.80%	34.65%	36.85%	36.50%	34.65%	36.84%	(0.30)%	0.00%	(0.01)%

* Amount in thousands of dollars

TABLE 1-C: ACCRUED BENEFIT FUNDING RATIOS: 1998-2000

(Dollars in Millions)

Fund	Current Assets			P.V. of Accrued Benefit			A.B. Funding Ratio		
	1998	1999	2000	1998	1999	2000	1998	1999	2000
Public Employees	$7,637	$8,489	$9,609	$7,956	$8,607	$10,348	95.98%	98.63%	92.86%
Police and Fire	$2,337	$3,680	$4,145	$1,638	$2,878	$3,250	142.68%	127.86%	127.55%
Local Correctional	N/A	$0	$11	N/A	$0	$10	N/A	0.00%	107.54%
State Employees	$5,391	$5,969	$6,744	$4,513	$4,951	$5,659	119.45%	120.56%	119.18%
State Patrol	$430	$473	$529	$360	$395	$445	119.32%	119.65%	118.89%
Correctional	$295	$335	$387	$235	$277	$326	125.86%	120.96%	118.83%
Legislators	$31	$33	$37	$60	$64	$67	51.70%	52.35%	55.67%
Elective State Officers	$0.5	$0.2	$0.2	$3.2	$3.4	$3.5	15.52%	5.87%	5.63%
Judges	$87	$98	$111	$125	$133	$147	69.41%	73.25%	75.63%
Teachers	$12,728	$14,011	$15,573	$11,332	$12,534	$14,010	112.31%	111.79%	111.16%
Duluth Teachers	$187	$219	$251	$187	$210	$231	100.30%	104.25%	108.59%
St. Paul Teachers	$625	$704	$801	$810	$888	$947	77.17%	79.26%	84.69%
Minneapolis Teachers	$810	$939	$1,028	$1,217	$1,343	$1,489	66.55%	69.97%	69.01%
Minneapolis Employees	$1,207	$1,328	$1,416	$1,319	$1,404	$1,491	91.53%	94.53%	95.00%

Table 1-D1: Summary of Accounts with Positive Amortizable Bases at June 30, 2000

Account	Net Amortizable Base at June 30, 1999	January 1, 2000 Amortization Payment	Net Amortizable Base at June 30, 2000
Anoka Police	$96,702	$14,149	$90,184
Columbia Heights Police	$387,560	$56,706	$361,436
Crookston Fire	$26,276	$3,845	$24,504
Crookston Police	$216,647	$31,699	$202,043
Duluth Fire	$20,526,006	$3,003,285	$19,142,395
Duluth Police	$5,610,532	$820,911	$5,232,339
Faribault Fire	$1,615,265	$236,339	$1,506,384
Faribault Police	$191,233	$27,980	$178,343
Hibbing Fire	$3,124,146	$457,113	$2,913,554
Hibbing Police	$1,368,173	$200,186	$1,275,947
Mankato Fire	$918,827	$134,439	$856,891
St. Cloud Fire	$2,896,905	$423,864	$2,701,631
St. Paul Fire	$279,992	$40,967	$261,119
South St. Paul Fire	$1,532,328	$224,204	$1,429,038
South St. Paul Police	$726,244	$106,261	$677,290
Winona Fire	$2,936,286	$429,626	$2,738,358
Winona Police	$1,868,983	$273,462	$1,742,999
Total	**$44,322,105**	**$6,485,036**	**$41,334,455**

Table 1-D2: Summary of Accounts with Negative Amortizable Bases at June 30, 2000

Account	Residual Asset Amount (RAA) at June 30, 1999	Interest Credited in Fiscal Year Ending June 30, 2000	Amount Paid in Fiscal Year Ending June 30, 2000	Amount Payable at June 30, 2000
Albert Lea Fire	7,064,580	228,764	7,293,344	-
Albert Lea Police	2,977,254	96,409	3,073,663	-
Austin Fire	1,163,009	26,340	1,189,349	-
Austin Police	1,190,608	26,965	1,217,573	-
Bloomington Police	26,046,223	589,891	26,636,114	-
Brainerd Police	491,371	11,128	502,499	-
Buhl Police	817,856	22,466	840,322	-
Chisholm Fire	178,470	10,255	-	188,725
Chisholm Police	17,764	1,021	-	18,785
Columbia Heights Fire	639,601	36,751	-	676,352
Crystal Police	2,883,846	65,313	2,949,159	-
Fridley Police	2,151,912	90,674	2,242,586	-
Mankato Police	1,225,781	70,432	-	1,296,213
New Ulm Police *	1,936,992	111,297	-	2,048,289
Red Wing Fire	2,039,368	46,187	2,085,555	-
Red Wing Police	6,413,503	145,252	6,558,755	-
Richfield Fire	2,229,254	50,488	2,279,742	-
Richfield Police	5,223,284	118,296	5,341,580	-
Rochester Fire	3,616,916	99,353	3,716,269	-
Rochester Police	367,420	10,093	377,513	-
St. Cloud Police	2,276,508	62,533	2,339,041	-
St. Louis Park Fire	3,176,624	117,995	3,294,619	-
St. Louis Park Police	3,849,017	142,970	3,991,987	-
St. Paul Police	5,812,934	159,675	5,972,609	-
Virginia Police	4,268,221	96,666	4,364,887	-
West St. Paul Fire	2,081,793	57,185	2,138,978	-
West St. Paul Police	1,070,705	29,411	1,100,116	-
Total	**$91,210,814**	**$2,523,810**	**$89,506,260**	**$4,228,364**

* Residual Asset Amount has been paid after the valuation date.

TABLE 1-E: ANALYSIS OF SERVICE CREDIT PURCHASES MADE IN PERIOD ENDING JUNE 30, 2000

Public Employees Retirement Association

	PERA Number	PERA Employer	Service Purchased	Employee Payment	Employer Payment	Change in Accrued Liability	Gain/(Loss) to Plan
Active Members:	580251	9614-0004	3.417	$19,582	$0	$26,747	($7,165)
	080863	2162-0003	4.583	$35,780	$0	$41,475	($5,695)
	399010	0046-0002	0.667	$956	$2,064	$4,405	($1,385)
	127106	7370-0001	0.833	$15,288	$0	$10,887	$4,401
Active subtotal:				**$71,606**	**$2,064**	**$83,514**	**($9,844)**
Deferred Vested Members:	none						
Deferred Vested subtotal:				**$0**	**$0**	**$0**	**$0**
Retired Members:	613755	0400-	1.083	$0	$4,918	$20,962	($16,044)
Retired subtotal:				**$0**	**$4,918**	**$20,962**	**($16,044)**
TOTAL (PERA)				**$71,606**	**$6,982**	**$104,476**	**($25,888)**

TABLE 1-E: ANALYSIS OF SERVICE CREDIT PURCHASES MADE IN PERIOD ENDING JUNE 30, 2000

State Employees Retirement Association

	Member Number	Service Purchased	Employee Payment	Employer Payment	Change in Accrued Liability	Gain/(Loss) to Plan
Active Members:	470-46-6668	2.000	$23,690	$0	$14,058	$9,632
	477-46-9763	1.500	$11,288	$0	$12,194	($906)
Active subtotal:			**$34,978**	**$0**	**$26,252**	**$8,726**
Deferred Vested Members:	none					
Deferred Vested subtotal:			**$0**	**$0**	**$0**	**$0**
Retired Members:	none					
Retired subtotal:			**$0**	**$0**	**$0**	**$0**
TOTAL (SERA)			**$34,978**	**$0**	**$26,252**	**$8,726**

TABLE 1-E: ANALYSIS OF SERVICE CREDIT PURCHASES MADE IN PERIOD ENDING JUNE 30, 2000

Teachers Retirement Plan

	TRA Number	TRA Employer Unit	Service Purchased	Employee Payment	Employer Payment	Change in Accrued Liability	Gain/(Loss) to Plan
Active Members:	081446	027-00279	0.090	$1,477	$0	$795	$682
	083576	073-00748	0.350	$6,639	$0	$3,259	$3,380
	085599	073-00742	1.000	$19,374	$0	$12,432	$6,942
	088426	066-00659	0.250	$4,327	$0	$1,962	$2,365
	090985	010-00112	0.120	$1,593	$0	$3,344	($1,751)
	094638	099-00007	0.280	$3,787	$0	$2,614	$1,173
	095032	062-00621	0.200	$4,203	$0	$1,952	$2,251
	098889	062-00624	1.260	$22,051	$0	$13,657	$8,394
	100085	062-00623	2.000	$25,699	$0	$18,842	$6,857
	102409	082-00834	1.000	$18,298	$0	$22,458	($4,160)
	102513	052-00508	0.070	$1,101	$0	$575	$526
	102967	071-00728	0.182	$3,236	$0	$1,822	$1,414
	103850	040-02397	1.000	$17,750	$0	$8,674	$9,076
	104939	012-00129	0.753	$9,899	$0	$7,832	$2,067
	105516	008-00088	0.520	$2,596	$0	$1,554	$1,042
	107011	002-00011	1.830	$29,474	$0	$26,990	$2,484
	108511	027-00279	0.830	$13,728	$0	$18,054	($4,326)
	108805	027-00281	1.280	$29,355	$0	$14,432	$14,923
	108978	027-00281	2.100	$41,327	$0	$30,499	$10,828
	109171	027-00270	1.000	$28,541	$0	$12,507	$16,034
	110360	016-00166	0.540	$8,989	$0	$6,083	$2,906
	110448	027-00279	0.298	$5,927	$0	$2,692	$3,235
	112469	062-00622	0.420	$8,429	$0	$3,878	$4,551
	112496	040-00392	0.370	$4,383	$0	$8,470	($4,087)
	113013	019-00197	2.000	$34,598	$0	$29,021	$5,577
	113466	007-00077	0.750	$12,866	$0	$7,894	$4,972
	113669	027-00273	0.560	$7,672	$0	$6,538	$1,134
	114428	050-00492	1.000	$16,979	$0	$8,484	$8,495
	114826	002-00011	0.090	$4,657	$0	$851	$3,806
	115761	002-00011	1.610	$26,758	$0	$18,837	$7,921

TABLE 1-E: ANALYSIS OF SERVICE CREDIT PURCHASES MADE IN PERIOD ENDING JUNE 30, 2000

Teachers Retirement Plan

TRA Number	TRA Employer Unit	Service Purchased	Employee Payment	Employer Payment	Change in Accrued Liability	Gain/(Loss) to Plan
116398	014-02164	0.700	$20,031	$0	$10,246	$9,785
116968	050-00500	0.130	$2,987	$0	$1,552	$1,435
118314	086-00877	0.510	$7,155	$0	$5,892	$1,263
118745	058-02580	0.229	$3,581	$0	$1,517	$2,064
119352	004-00032	0.760	$9,923	$0	$7,703	$2,220
119592	021-00206	1.000	$18,751	$0	$21,302	($2,551)
119925	002-00014	1.220	$20,552	$0	$20,465	$87
119932	005-00051	1.390	$20,818	$0	$17,776	$3,042
119965	027-00277	1.000	$16,506	$0	$10,798	$5,708
120108	040-00394	1.070	$14,114	$0	$17,243	($3,129)
120182	012-00129	0.380	$4,541	$0	$2,571	$1,970
120719	065-03001	0.150	$2,030	$0	$986	$1,044
121245	015-00162	1.030	$17,464	$0	$11,784	$5,680
122166	027-00273	0.040	$1,110	$0	$579	$531
122430	046-02752	0.220	$7,071	$0	$1,549	$5,522
122972	002-00014	0.080	$1,293	$0	$679	$614
122997	069-00701	0.060	$993	$0	$571	$422
123037	049-00482	1.750	$30,637	$0	$14,760	$15,877
123443	018-00181	0.240	$3,824	$0	$2,011	$1,813
123799	080-02155	1.000	$13,403	$0	$16,093	($2,690)
123830	027-00281	5.000	$52,511	$0	$41,129	$11,382
124051	060-00593	0.290	$3,773	$0	$1,813	$1,960
124273	065-02534	0.110	$1,467	$0	$780	$687
124825	033-00332	4.940	$32,871	$0	$21,956	$10,915
125663	042-00413	0.250	$3,166	$0	$2,873	$293
125786	073-00742	0.250	$3,990	$0	$3,492	$498
126636	027-00279	0.150	$3,270	$0	$1,627	$1,643
127293	005-00047	0.150	$1,980	$0	$867	$1,113
127874	019-00191	0.610	$15,230	$0	$7,463	$7,767
128945	027-00286	3.000	$48,848	$0	$48,115	$733
129140	068-00690	2.800	$8,508	$64,973	$49,948	$23,533

TABLE 1-E: ANALYSIS OF SERVICE CREDIT PURCHASES MADE IN PERIOD ENDING JUNE 30, 2000

Teachers Retirement Plan

TRA Number	TRA Employer Unit	Service Purchased	Employee Payment	Employer Payment	Change in Accrued Liability	Gain/(Loss) to Plan
129652	027-00277	1.000	$20,640	$0	$14,884	$5,756
130882	048-00477	1.270	$17,411	$0	$14,304	$3,107
131400	038-00381	1.000	$19,019	$0	$16,814	$2,205
132387	073-00742	0.700	$11,724	$0	$8,149	$3,575
132612	027-00284	1.000	$23,154	$0	$21,528	$1,626
133582	005-00051	0.640	$11,441	$0	$8,088	$3,353
134236	019-00197	1.450	$19,998	$0	$19,086	$912
134272	030-00911	0.410	$5,780	$0	$2,988	$2,792
134343	099-00003	0.230	$3,156	$0	$1,506	$1,650
135022	002-00011	0.260	$4,305	$0	$2,253	$2,052
137170	002-00012	2.490	$28,982	$0	$21,671	$7,311
138004	082-00831	0.040	$1,441	$0	$718	$723
138007	007-02135	0.280	$3,421	$0	$1,798	$1,623
138078	071-00728	1.140	$17,215	$0	$21,703	($4,488)
138709	023-00238	1.000	$10,955	$0	$12,050	($1,095)
139045	002-00013	1.000	$13,816	$0	$9,410	$4,406
140241	030-00911	1.230	$15,992	$0	$10,248	$5,744
140457	013-00138	0.450	$7,109	$0	$3,523	$3,586
140932	077-02170	0.710	$10,409	$0	$6,369	$4,040
142307	073-00742	2.000	$25,175	$0	$22,155	$3,020
142557	082-00833	2.460	$33,659	$0	$31,797	$1,862
143311	077-02170	1.520	$18,308	$0	$11,748	$6,560
143339	082-00831	3.880	$49,045	$0	$42,057	$6,988
144828	082-00834	4.500	$59,572	$0	$35,470	$24,102
146127	015-00162	2.000	$22,734	$0	$19,224	$3,510
147008	034-00347	0.480	$7,704	$0	$3,906	$3,798
147071	060-00595	0.770	$11,111	$0	$7,377	$3,734
147497	099-00009	0.350	$5,726	$0	$2,299	$3,427
149666	073-00742	0.670	$7,344	$0	$6,845	$499
149977	019-00200	1.000	$14,506	$0	$15,296	($790)
151167	072-02310	3.860	$54,656	$0	$37,803	$16,853

TABLE 1-E: ANALYSIS OF SERVICE CREDIT PURCHASES MADE IN PERIOD ENDING JUNE 30, 2000

Teachers Retirement Plan

TRA Number	TRA Employer Unit	Service Purchased	Employee Payment	Employer Payment	Change in Accrued Liability	Gain/(Loss) to Plan
151618	018-00182	0.250	$2,893	$0	$1,389	$1,504
151827	074-00761	4.000	$50,258	$0	$5,107	$45,151
151930	082-00833	2.000	$29,231	$0	$28,992	$239
152377	055-00535	0.180	$2,377	$0	$1,098	$1,279
155221	003-00022	1.000	$5,413	$0	$4,201	$1,212
155256	014-00146	0.060	$675	$0	$369	$306
156059	062-00623	1.000	$16,038	$0	$9,996	$6,042
156536	002-00011	0.900	$14,344	$0	$10,215	$4,129
156971	019-00196	1.029	$14,751	$0	$16,033	($1,282)
157137	055-00531	3.820	$54,925	$0	$32,579	$22,346
157847	049-00484	0.600	$7,232	$0	$5,351	$1,881
158575	010-00112	2.000	$30,263	$0	$27,015	$3,248
159168	090-00904	2.000	$44,945	$0	$48,743	($3,798)
162552	055-00535	5.610	$57,121	$0	$13,139	$43,982
164007	027-00279	6.000	$66,604	$0	$63,247	$3,357
164312	034-00347	4.000	$57,377	$0	$37,025	$20,352
165016	064-00641	0.700	$3,955	$0	$3,426	$529
166697	052-00508	3.360	$35,278	$0	$24,605	$10,673
167436	052-00507	0.720	$6,629	$0	$6,715	($86)
170918	080-02155	5.000	$49,860	$0	$42,267	$7,593
173694	028-00300	4.350	$54,178	$0	$39,968	$14,210
174003	069-02142	2.400	$31,928	$0	$30,831	$1,097
175054	081-00829	0.550	$4,953	$0	$4,096	$857
175074	014-00152	0.360	$4,182	$0	$1,922	$2,260
175154	027-00270	0.270	$3,740	$0	$1,815	$1,925
175320	018-00181	1.810	$20,791	$0	$12,969	$7,822
176233	027-00279	3.000	$18,028	$0	$14,585	$3,443
179321	027-00279	0.130	$1,702	$0	$722	$980
181886	069-00695	0.330	$3,186	$0	$1,424	$1,762
182119	048-00477	2.080	$23,484	$0	$19,761	$3,723
184694	019-00192	0.050	$693	$0	$298	$395

TABLE 1-E: ANALYSIS OF SERVICE CREDIT PURCHASES MADE IN PERIOD ENDING JUNE 30, 2000

Teachers Retirement Plan

	TRA Number	TRA Employer Unit	Service Purchased	Employee Payment	Employer Payment	Change in Accrued Liability	Gain/(Loss) to Plan
	185463	099-00010	3.252	$17,984	$0	$10,097	$7,887
	187760	071-00727	0.250	$3,592	$0	$5,785	($2,193)
	194848	027-00284	1.000	$12,404	$0	$12,236	$168
	197379	082-00916	6.600	$95,858	$0	$39,681	$56,177
	204970	027-00279	0.390	$4,236	$0	$1,769	$2,467
	208929	040-02143	3.030	$17,227	$0	$18,636	($1,409)
	213662	003-00022	0.590	$3,952	$0	$3,842	$110
	217971	027-00272	1.000	$5,848	$0	$6,450	($602)
	220517	056-00542	1.000	$6,683	$0	$4,585	$2,098
	228292	027-00272	0.740	$3,537	$0	$3,280	$257
	228337	074-00761	0.140	$1,463	$0	($60)	$1,523
	232327	019-00196	2.623	$23,593	$0	$12,800	$10,793
	235421	027-00278	1.000	$3,001	$0	$2,562	$439
	236165	019-00196	0.080	$265	$0	$50	$215
	238420	047-00465	2.000	$6,258	$0	$5,854	$404
	238610	004-00038	3.000	$11,344	$0	$13,901	($2,557)
	245070	002-00015	3.000	$9,208	$0	$8,507	$701
	252813	027-00281	10.000	$54,312	$0	$67,945	($13,633)
	253360	019-00192	4.000	$12,602	$0	$11,943	$659
	254312	027-00272	0.340	$905	$0	$2,009	($1,104)
Active subtotal:				**$2,374,925**	**$64,973**	**$1,817,984**	**$621,914**
Deferred Vested Members:	257547	027-00276	4.000	$15,316	$0	$2,881	$12,435
Deferred Vested subtotal:				**$15,316**	**$0**	**$2,881**	**$12,435**
Retired Members:	070339	027-00279	0.550	$13,401	$0	$6,218	$7,183
	082824	099-00007	0.550	$9,749	$0	$41,158	($31,409)
	082842	027-00276	0.120	$7,283	$0	$55,518	($48,235)
	091129	002-00011	0.330	$7,086	$0	$57,437	($50,351)
	092296	010-00112	0.380	$12,198	$0	$41,781	($29,583)
	092351	069-00706	0.959	$26,331	$0	$10,609	$15,723
	092728	078-00803	0.220	$7,323	$0	$58,500	($51,177)

TABLE 1-E: ANALYSIS OF SERVICE CREDIT PURCHASES MADE IN PERIOD ENDING JUNE 30, 2000

Teachers Retirement Plan

TRA Number	TRA Employer Unit	Service Purchased	Employee Payment	Employer Payment	Change in Accrued Liability	Gain/(Loss) to Plan
094019	027-00272	0.640	$12,966	$0	$65,348	($52,383)
094471	069-00706	0.330	$4,438	$0	$3,331	$1,106
096058	027-00271	1.500	$20,347	$0	$68,858	($48,511)
099192	002-00011	0.460	$10,269	$0	$73,492	($63,223)
100058	027-00270	1.000	$25,665	$0	$73,345	($47,680)
102079	060-00593	0.420	$6,019	$0	($3,982)	$10,001
106100	027-00273	0.180	$3,273	$0	$18,496	($15,223)
106878	028-00299	0.500	$6,292	$0	$3,526	$2,766
107751	063-00630	0.490	$9,931	$0	$38,431	($28,501)
108068	027-00279	1.020	$18,003	$0	$33,508	($15,505)
108134	060-00601	0.300	$4,184	$0	$3,641	$544
108439	050-00492	0.240	$4,358	$0	$2,169	$2,189
108539	062-00621	0.310	$13,306	$0	$57,571	($44,265)
109134	072-02310	1.000	$14,394	$0	$857	$13,537
109670	021-00206	0.710	$16,007	$0	$36,467	($20,461)
112006	018-00181	0.300	$4,690	$0	($5,395)	$10,085
112963	062-00621	0.150	$6,864	$0	$35,331	($28,467)
113411	050-00492	1.240	$26,386	$0	$51,718	($25,331)
113524	082-00834	0.040	$931	$0	$34,489	($33,558)
114975	027-00270	0.450	$8,702	$0	$59,644	($50,943)
115568	043-00423	0.010	$212	$0	($4,497)	$4,709
117838	062-00622	0.540	$13,432	$0	$7,529	$5,903
118401	027-00281	0.660	$6,438	$0	$7,345	($907)
119126	049-00484	0.160	$2,045	$0	($8,251)	$10,296
119559	060-00595	0.220	$8,860	$0	$38,260	($29,400)
119618	027-00279	0.360	$10,226	$0	$36,030	($25,804)
120292	077-02753	0.620	$12,115	$0	$32,789	($20,675)
122142	082-00833	1.000	$20,856	$0	$11,093	$9,763
124718	002-00011	0.450	$8,122	$0	$4,320	$3,802
132435	073-00742	0.830	$17,473	$0	$52,144	($34,671)
132556	029-00309	0.550	$11,633	$0	$40,082	($28,449)

TABLE 1-E: ANALYSIS OF SERVICE CREDIT PURCHASES MADE IN PERIOD ENDING JUNE 30, 2000

Teachers Retirement Plan

	TRA Number	TRA Employer Unit	Service Purchased	Employee Payment	Employer Payment	Change in Accrued Liability	Gain/(Loss) to Plan
	133326	040-02397	0.650	$11,419	$0	$33,699	($22,280)
	138345	042-00413	3.000	$31,862	$0	$40,232	($8,370)
	153748	031-00318	4.790	$86,072	$0	$95,197	($9,125)
Retired subtotal:				**$541,161**	**$0**	**$1,308,040**	**($766,879)**
TOTAL (TRA)				**$2,931,402**	**$64,973**	**$3,128,905**	**($132,530)**

TABLE 1-E: ANALYSIS OF SERVICE CREDIT PURCHASES MADE IN PERIOD ENDING JUNE 30, 2000

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:	5850	Duluth	1.00000	$13,592	$0	$16,887	($3,295)
	6440	Duluth	1.00000	$8,983	$0	$10,115	($1,132)
	5123	Duluth	0.13000	$5,138	$0	$0	$5,138
Active subtotal:				**$27,713**	**$0**	**$27,002**	**$711**
Deferred Vested Members:	None						
Deferred Vested subtotal:				**$0**	**$0**	**$0**	**$0**
Retired Members:	9158	Duluth	2.50000	$8,690	$0	$9,165	($475)
	5222	Duluth	2.00000	$18,758	$0	$17,755	$1,003
	5046	Duluth	1.59000	$32,166	$0	$56,079	($23,913)
	6307	Duluth	3.00000	$18,586	$0	$21,728	($3,142)
Retired subtotal:				**$78,200**	**$0**	**$104,727**	**($26,527)**
TOTAL (DTRA)				**$105,913**	**$0**	**$131,729**	**($25,816)**

TABLE 1-E: ANALYSIS OF SERVICE CREDIT PURCHASES MADE IN PERIOD ENDING JUNE 30, 2000

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:	134085	St. Paul	7.40000	$103,436	$0	$99,762	$3,674
	137781	St. Paul	0.10000	$1,661	$0	$1,384	$277
	145713	St. Paul	2.30000	$15,971	$0	$12,289	$3,682
	159476	St. Paul	0.11000	$2,148	$0	$678	$1,470
	311628	St. Paul	0.10000	$189	$0	$39	$150
	159351	St. Paul	0.10000	$278	$0	$138	$140
	160635	St. Paul	1.74483	$24,372	$0	$26,326	($1,954)
	161361	St. Paul	0.20000	$5,736	$0	$2,545	$3,191
	424000	St. Paul	1.91111	$4,279	$0	$206	$4,073
	166962	St. Paul	0.20000	$4,180	$0	$1,800	$2,380
	170168	St. Paul	0.33333	$7,500	$0	$3,824	$3,676
	176750	St. Paul	0.40000	$7,591	$0	$4,291	$3,300
	178631	St. Paul	1.00000	$6,481	$0	$548	$5,933
	323880	St. Paul	10.00000	$111,875	$0	$45,809	$66,066
	188671	St. Paul	3.00000	$35,642	$0	$32,569	$3,073
	189078	St. Paul	5.00000	$71,634	$0	$50,900	$20,734
	194669	St. Paul	0.60000	$5,051	$0	$2,021	$3,030
	196374	St. Paul	2.00000	$29,769	$0	$21,035	$8,734
	201992	St. Paul	3.00000	$30,254	$0	$17,823	$12,431
	204080	St. Paul	2.00000	$28,795	$0	$19,741	$9,054
Active subtotal:				**$496,842**	**$0**	**$343,728**	**$153,114**
Deferred Vested Members:	None						
Deferred Vested subtotal:				**$0**	**$0**	**$0**	**$0**

TABLE 1-E: ANALYSIS OF SERVICE CREDIT PURCHASES MADE IN PERIOD ENDING JUNE 30, 2000

St. Paul Teachers Retirement Plan

Retired Members:	3090	St. Paul	0.02778	$975	$0	$456	$519
	3043	St. Paul	3.00000	$43,210	$0	$43,051	$159
	3088	St. Paul	1.30000	$16,953	$0	$18,901	($1,948)
	3046	St. Paul	3.00000	$20,036	$0	$41,472	($21,436)
	60209	St. Paul	1.00000	$12,427	$0	$12,794	($367)
Retired subtotal:				**$93,600**	**$0**	**$116,674**	**($23,073)**
TOTAL (SPTRA)				**$590,442**	**$0**	**$460,402**	**$130,041**

TABLE 1-E: ANALYSIS OF SERVICE CREDIT PURCHASES MADE IN PERIOD ENDING JUNE 30, 2000

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:	15765	Minneapolis	1.00000	$43,789	$0	$15,972	$27,817
	16811	Minneapolis	0.07200	$1,247	$0	$1	$1,246
	18251	Minneapolis	1.00000	$10,123	$0	$11,953	($1,830)
	20101	Minneapolis	8.00000	$68,509	$0	$73,097	($4,588)
Active subtotal:				**$123,668**	**$0**	**$101,023**	**$22,645**
Deferred Vested Members:	None						
Deferred Vested subtotal:				**$0**	**$0**	**$0**	**$0**
Retired Members:	15556	Minneapolis	1.00000	$20,299	$0	$19,731	$568
	15608	Minneapolis	2.00000	$85,697	$0	$138,247	($52,550)
Retired subtotal:				**$105,996**	**$0**	**$157,978**	**($51,982)**
TOTAL (MTRFA)				**$229,664**	**$0**	**$259,001**	**($29,337)**

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, 2000 Actuarial Valuation, we highlight the following:

Public Employees (Chapter 353): None

Police and Fire (Chapter 353): None

Local Government Correctional Service (Chapter 353E): None

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):
Benefit cap changed from 70% of salary in final 12 months preceding retirement to 76.8% of average salary for high five years preceding retirement. Employee contributions are directed to the Unclassified Plan after the maximum benefit is reached.

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.

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, 2000 Actuarial Valuation for that Fund.

In our opinion the assumptions used for July 1, 2000 valuations are reasonable and well within the mainstream of current actuarial practice. Experience during the 1992-96 period has been analyzed for the three large statewide plans and the approved changes in the assumptions for these plans have been included in the July 1, 2000 actuarial valuations.

CHANGES IN 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, 2000, *less*
>
> 80% of the current year Unrecognized Asset Return at July 1, 2000 (the difference between actual net return on Market Value of Assets between 06/30/99 and 06/30/2000 and the asset return expected during that period based on the assumed interest rate employed in the July 1, 1999 Actuarial Valuation); *less*
>
> 60% of the Unrecognized Asset Return at July 1, 1999 (the difference between Market Value of Assets on 06/30/99 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, 2000 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%	(1)/Reported Salary Increased	N/A	2% Implied by 6.5% Interest Rate
St. Paul Teachers (Chapter 354A)	8.5%/8.5%	(1)/Reported Salary Increased	N/A	2% Per Annum
Minneapolis Teachers (Chapter 354A)	8.5%/8.5%	(1)/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, 2000 ACTUARIAL ASSUMPTIONS - CATEGORY 2

(Highlighted box indicates change from prior year.)

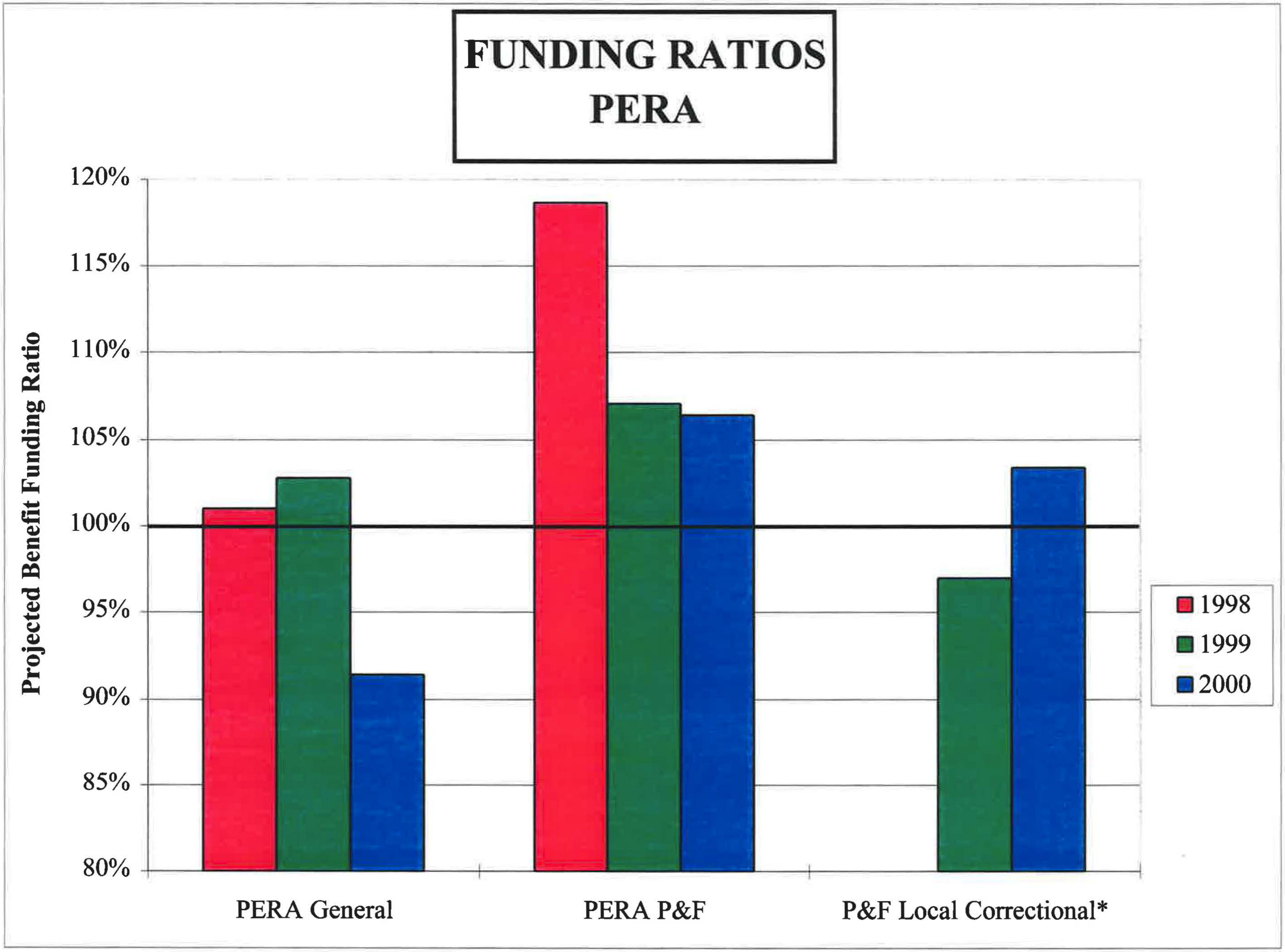
Fund	Mortality Table (male rates shown)	Disability Table (male rates shown)	Retirement Age (Coordinated)	Other Separation (male rates shown)
Public Employees (Chapter 353)	1983 GAM Male set back 8 years	Graded: .05% @ 35 .49% @ 55	Graded from age 55 and separate graded rates for Rule of 90	Select and 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: .05% @ 35 .35% @ 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 10 years	Graded: .01% @ 35 .10% @ 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 4 years	Graded: .06% @ 35 .36% @ 55	Graded from age 55 40% under Rule of 90	Graded: 4.91% @ 35 .13% @ 55
St. Paul Teachers (Chapter 354A)	1983 GAM Male set back 5 years	Graded: .06% @ 35 .36% @ 55	Graded from age 55	Graded: 4.50% @ 35 0.50% @ 55
Minneapolis Teachers (Chapter 354A)	1983 GAM Male set back 6 years	Graded: .05% @ 35 .36% @ 55	Graded from age 55	Graded: 4.50% @ 35 0.50% @ 55
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-C: JULY 1, 2000 ACTUARIAL ASSUMPTIONS - CATEGORY 3

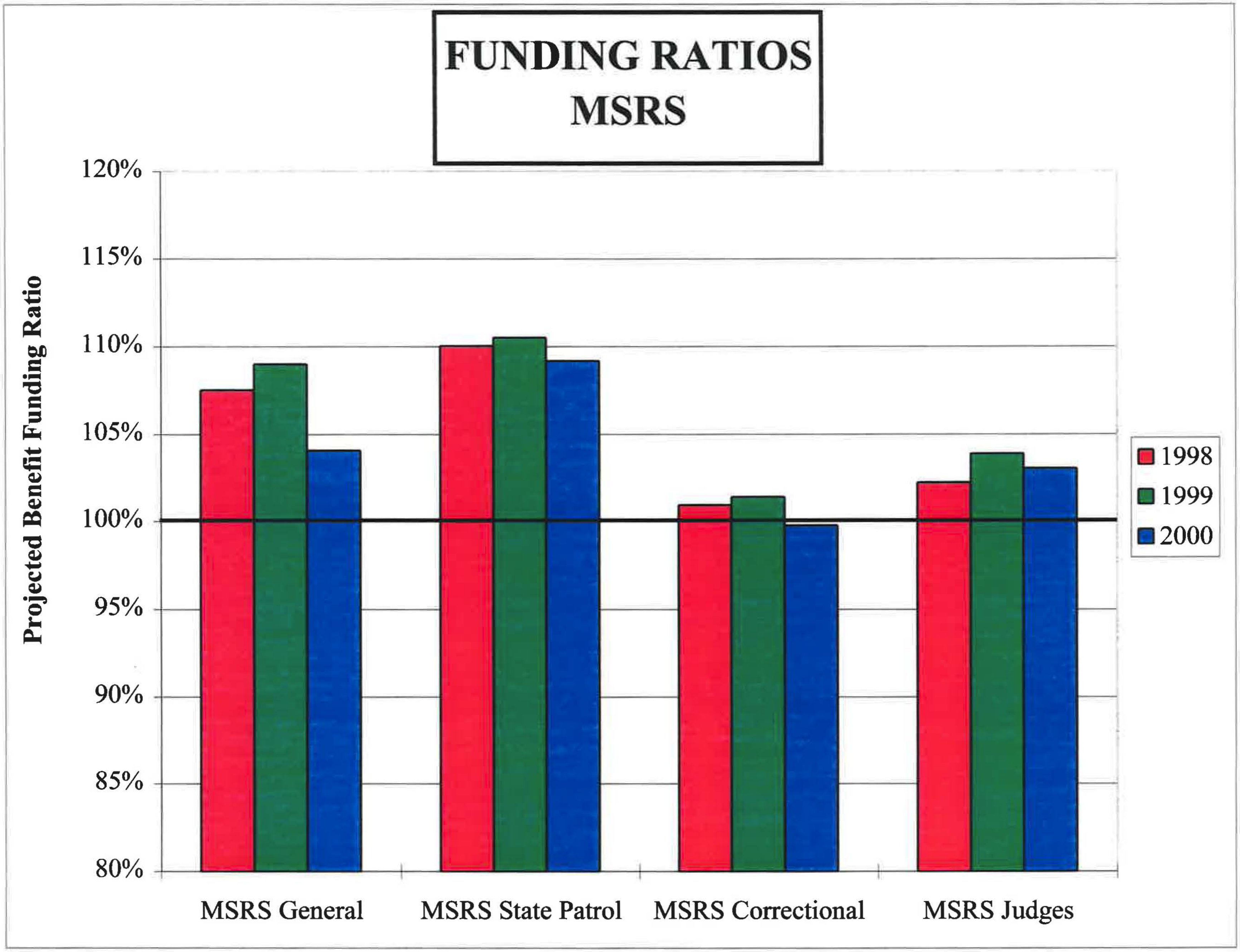
(Highlighted box indicates change from prior year.)

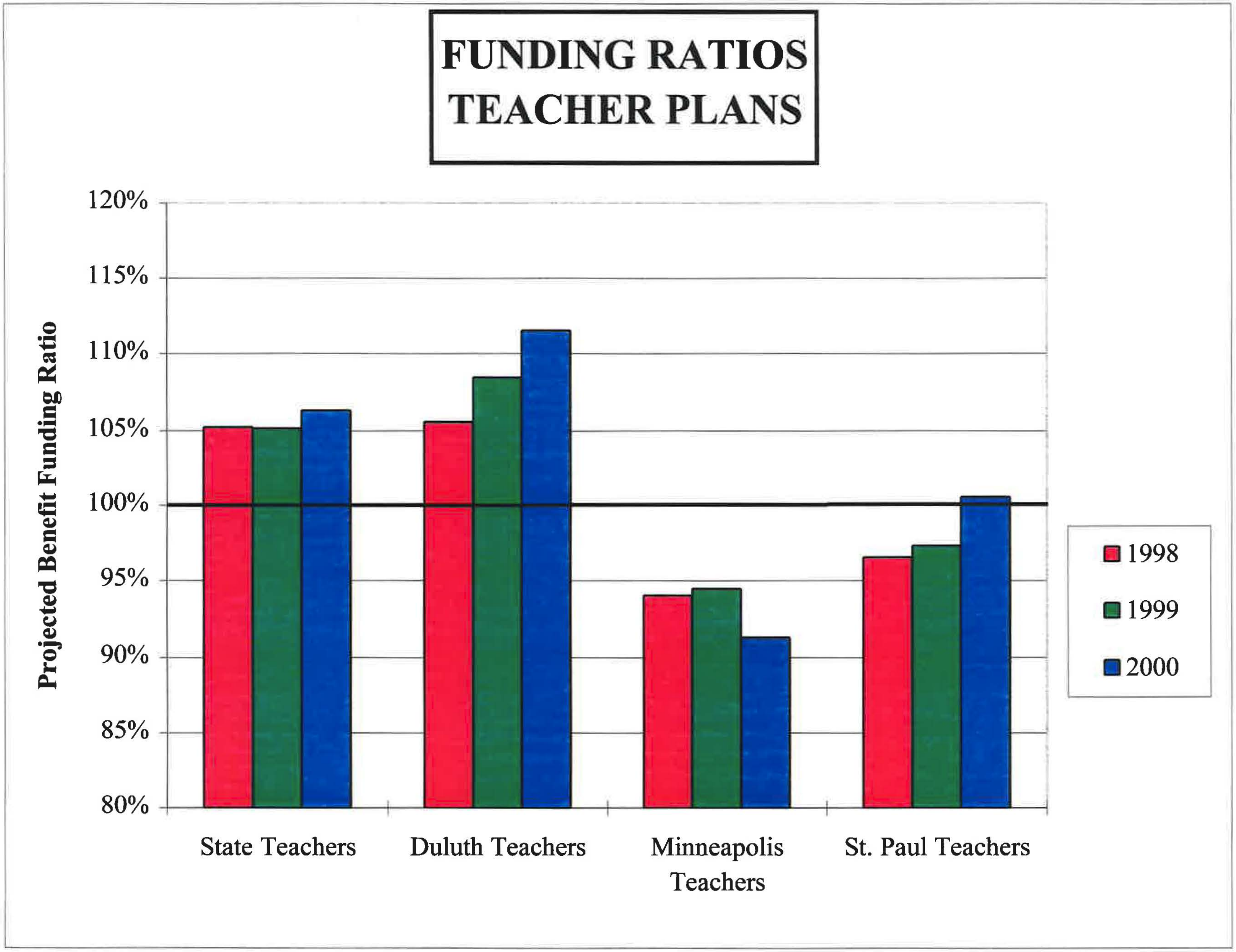
Fund	Family Composition (Male/Female)	Expenses (Admin. Only)	Bounceback Annuity Election (Male/Female)	Other
Public Employees (Chapter 353)	85%/65% married; no children	Prior year as % of payroll	30%/15% for 50% J&S 45%/15% for 100% J&S	2.5% load on withdrawal and retirement decrements for Combined Service 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	None
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	None
State Employees (Chapter 352)	85%/85% married	Prior year as % of payroll	25%/10% for 50% J&S 45%/10% for 100% J&S	1% load on withdrawal and retirement decrements 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	None
Correctional (Chapter 352)	85%/85% married	Prior year as % of payroll	25%/ 5% for 50% J&S 25%/ 5% for 100% J&S	None
Legislators (Chapter 3A)	85%/85% married; two children	Prior year as % of payroll	None	$4,800 per diem income
Elective State Officers (Chapter 352C)	85%/85% married; two children	Prior year as % of payroll	None	No refunds after 8 years
Judges (Chapter 490)	Actual data	Prior year as % of payroll	None	No refunds
Teachers (Chapter 354)	85%/65% married; no children	Prior year as % of payroll	15%/20% for 50% J&S 15%/10% for 75% J&S 50%/30% for 100% J&S	1% load on withdrawal and retirement decrements for Combined Service Annuities
Duluth Teachers (Chapter 354A)	80%/80% married	Prior year as % of payroll	30%/30% for 50% J&S 55%/20% for 100% J&S	None
St. Paul Teachers (Chapter 354A)	85%/60% married; two children	Prior year as % of payroll	15%/10% for 50% J&S 50%/10% for 100% J&S	Benefit increase = (5 yr. return - 8.50%) x (1 - contribution deficiency)
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%/10% for 100% J&S	Benefit increase = (5 yr. return - 8.50%) x (1 - contribution deficiency)
Minneapolis Employees (Chapter 422A)	67%/67% married	Prior year increased by 4% as % of payroll	None	Investment expense amortized to a required date

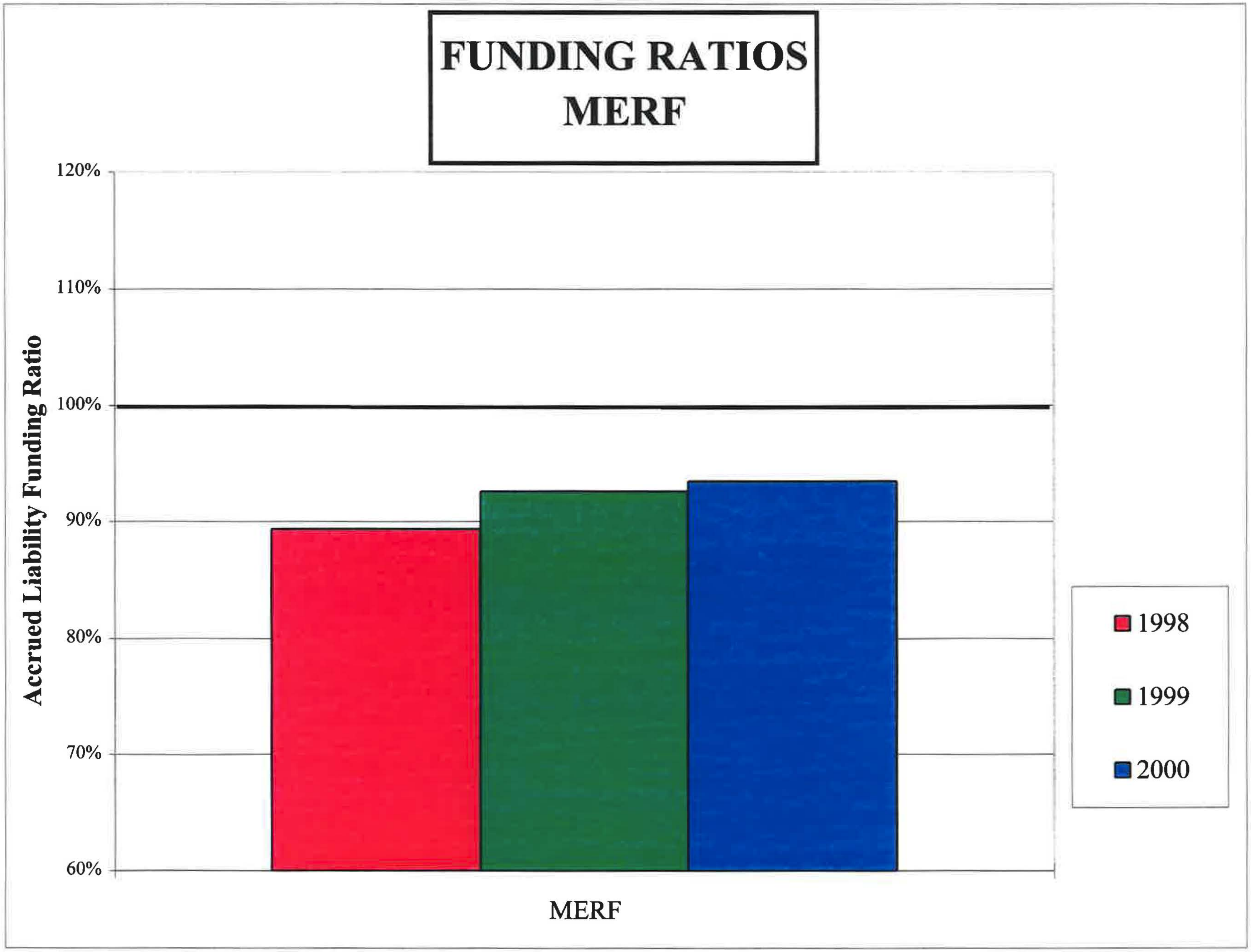
R:\CLIENT\06MLC\REPORTS\SUMM00.DOC

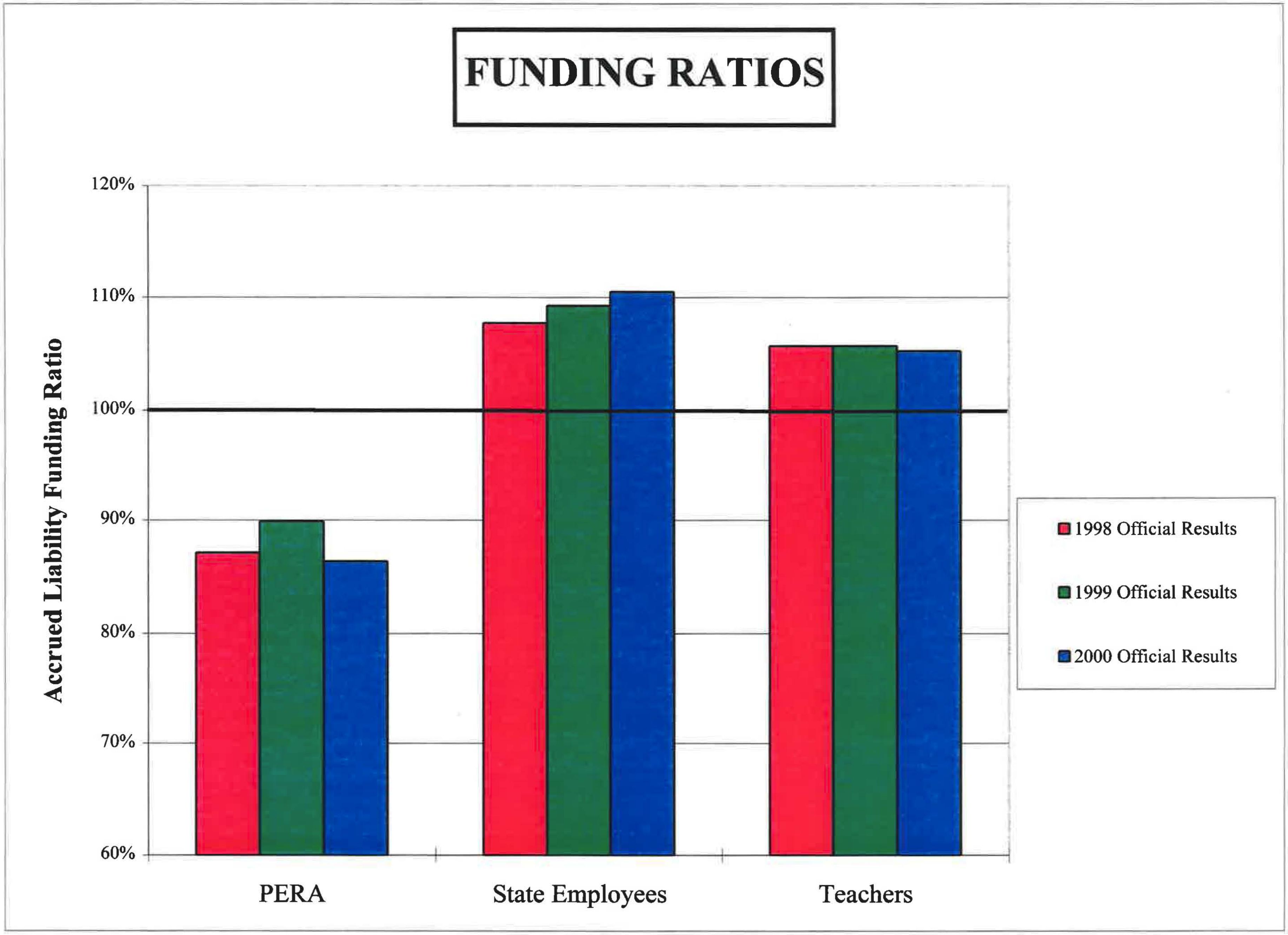


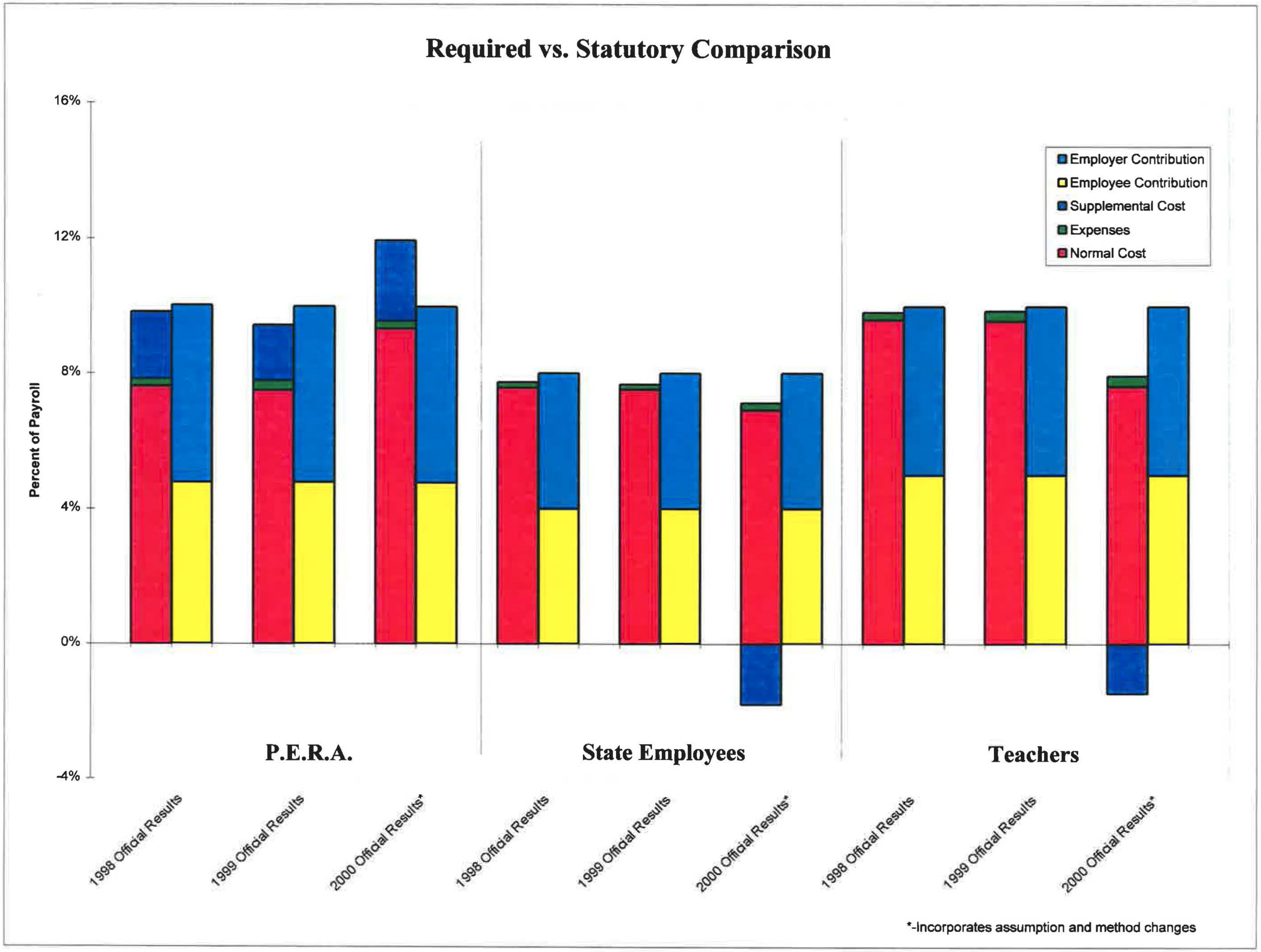
*-1999 was the first year for the P&F Local Correctional Plan


FUNDING RATIOS
MSRS
Projected Benefit Funding Ratio
120%
115%
110%
105%
100%
95%
90%
85%
80%
1998
1999
2000
MSRS General
MSRS State Patrol
MSRS Correctional
MSRS Judges


FUNDING RATIOS
TEACHER PLANS
Projected Benefit Funding Ratio
120%
115%
110%
105%
100%
95%
90%
85%
80%
State Teachers
Duluth Teachers
Minneapolis Teachers
St. Paul Teachers
1998
1999
2000


FUNDING RATIOS
MERF
Accrued Liability Funding Ratio
120%
110%
100%
90%
80%
70%
60%
MERF
1998
1999
2000


FUNDING RATIOS
Accrued Liability Funding Ratio
120%
110%
100%
90%
80%
70%
60%
PERA
State Employees
Teachers
1998 Official Results
1999 Official Results
2000 Official Results


Required vs. Statutory Comparison
16%
12%
8%
4%
0%
-4%
Percent of Payroll
Employer Contribution
Employee Contribution
Supplemental Cost
Expenses
Normal Cost
P.E.R.A.
State Employees
Teachers
1998 Official Results
1999 Official Results
2000 Official Results*
1998 Official Results
1999 Official Results
2000 Official Results*
1998 Official Results
1999 Official Results
2000 Official Results*
*-Incorporates assumption and method changes