



**STATE OF MINNESOTA
SUMMARY OF 1991
ACTUARIAL VALUATIONS**



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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, 1991 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 1991-92 funding levels, as well as summaries of significant plan changes and actuarial assumptions used. Since this has been our first year of involvement with these plans, we are still working on attaining a full and broad perspective regarding the operation and financial position of the plans. Accordingly, our commentary this year is relatively brief. We contemplate expanded analysis in future years.

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,

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STATE OF MINNESOTA
SUMMARY OF 1991 ACTUARIAL VALUATIONS

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STATE OF MINNESOTA
SUMMARY OF 1991 ACTUARIAL VALUATIONS

I. 1991-92 FUNDING LEVELS (TABLES 1, 2 AND 3)

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 1, 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 2 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 progress is the ratio of plan assets to the present value of accrued benefits, summarized for the last three valuations in Table 3. 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 1 and 2. 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%.

Below we comment by plan on our analysis and observation of this our first set of actuarial valuations:

PERA

1. Public Employees plan shows a modest deficiency. A deficiency arose in 1990 following a change in actuarial assumptions. Funding ratios have been stable at 80%; lack of increase in these ratios also points to moderate weakness in the contribution levels. We don't see this as a major concern at this point.

2. Police and Fire plan is in a well-funded position. Both the sufficiency numbers and the funding ratios support this conclusion.
3. Police and Fire Consolidation plan requires substantial contribution levels. Since the statutes require full current funding, no deficiency is noted but the required rate has pushed up over 50% of payroll with this valuation. The addition of new local associations has caused a drop in the funding ratio and an increase in the total required contribution.

MSRS

4. The State General Employees plan continues to show a contribution sufficiency despite a modest downward adjustment in statutory rates reflected in 1990. The funding ratios also demonstrate appropriate funding progress.
5. The State Patrol plan also shows contribution sufficiency, although a declining one. The increasing pattern of actuarially determined funding requirements needs to be monitored. General benefit funding ratios are good.
6. The State Correctional Employees plan continues to be well-funded despite the recent drop in statutory contribution rates.
7. The Legislators and Elective State Officers plans are both funded on a terminal funding basis. This 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.

Not surprisingly, Table 3 shows low funding ratios for these plans. We recommend consideration of moving to a pre-funded basis similar to that recently adopted for the Judges plan.

8. The Judges plan changed from a terminal funding approach to a pre-funded basis last year. The 1991 valuation shows the adopted rate should be sufficient over the long term. Protection against a possible short-term cash shortage should probably be considered but over the longer term, funding ratios should improve significantly.

TEACHERS

9. The Teachers Retirement Association plan shows a modest funding deficiency. Like the PERA plan, this deficiency emerged in 1990 after a reduction in statutory contribution rates coupled with a change in actuarial assumptions. Funding ratios are stable at about 85%. We do not see a major problem here.
10. The Duluth Teachers plan has a funding deficiency of 0.80% of payroll. The pattern of costs and funding ratios for the past three years warrant some explanation. 1991 data reflected substantial salary increases, while the 1990 valuation reflected lower than assumed salary increases. While the funding ratios and deficiency for this plan are not serious problems at this point, we do believe they merit close attention over the next few years.
11. The St. Paul Teachers plan has a substantial funding deficiency. The level of this deficiency remains between 3 and 4 percent of payroll. It is not reasonable to expect favorable plan experience to significantly improve this situation. In fact, as a higher percentage of active employees participate in the Coordinated plan (with lower contribution rates), the deficiency arising out of the Supplemental Contribution requirement is likely to get larger and more difficult to deal with. We recommend early attention to this problem.
12. The Minneapolis Teachers plan is in very serious financial condition. Current Statutory Contribution rates are dramatically lower than the actuarial requirements of Section 356.215. As the available amortization period shortens, this deficiency becomes worse and worse. The pattern of increasing deficiencies is likely to continue until substantive legislative action is taken to address the situation. As last

year's summary report pointed out, this plan is in danger of running out of money to pay its benefits in the not-too-distant future.

MERF

13. The Minneapolis Employees Retirement Fund is a closed plan with no new active employees. The Statutory Funding requirements are structured to assure full funding of actuarial accrued liability by the year 2017. Total contribution rates continue to rise. Recent legislation capped the State's obligation at \$10,455,000. This cap was hit this year, causing allocated contribution requirements to rise significantly for the contributing employers. Also impacting this year's increase in rates was the asset loss experienced by the Fund. While the total level of contribution requirements will ultimately decline along with the number of active employees, the contribution as a percentage of payroll is likely to remain high or even increase further.

* * * *

We note that the three major statewide systems seem to be in a reasonable financial position at this time. We believe the Commission should attempt to focus legislative consideration on the following priorities:

- The severe deficiency in Statutory rates in the Minneapolis Teachers Retirement Association.
- The substantive deficiency in Statutory rates in the St. Paul Teachers Retirement Association.
- Consideration of initiating pre-funding in the Legislators and Elective State Officers plans.

As Commission Actuary, we stand ready to assist the Commission in these endeavors.

TABLE 1
1991-92 FUNDING LEVELS (PERCENTAGES)

Fund	Section 356.215 Requirements			Statutory Requirement			Sufficiency (Deficiency)	
	Normal Cost	Supplemental Cost	Expense	Total	Employee	Employer		Total
Public Employees (Chapter 353)	6.38%	2.79%	0.27%	9.44%	4.41%	4.76%	9.17%	(0.27)%
Police and Fire (Chapter 353)	17.08	0.00	0.46	17.54	8.00	12.00	20.00	2.46
Police and Fire Consolidation	19.68	36.46*	0.00	56.14	8.00	48.14	56.14	0.00
State Employees (Chapter 352)	5.98	1.66	0.22	7.86	4.15	4.29	8.44	0.58
State Patrol (Chapter 352B)	19.02	2.93	0.63	22.58	8.50	14.88	23.38	0.80
Correctional (Chapter 352)	9.81	0.57	0.44	10.82	4.90	6.27	11.17	0.35
Legislators (Chapter 3A)	16.68	10.34	0.65	27.67	9.00	Terminal Funding	N/A	N/A
Elective State Officers (Chapter 352C)	13.64	19.15	0.49	33.28	9.00	Terminal Funding	N/A	N/A
Judges (Chapter 490)	15.74	9.02	0.34	25.10	4.34	22.00	26.34	1.24
Teachers (Chapter 354)	9.06	3.61	0.37	13.04	4.56	8.20	12.76	(0.28)
Duluth Teachers (Chapter 354A)	8.59	1.27	1.23	11.09	4.50	5.79	10.29	(0.80)
St. Paul Teachers (Chapter 354A)	11.60	6.67	0.60	18.87	6.44	9.00	15.44	(3.43)
Minneapolis Teachers (Chapter 354A)	13.58	14.64	2.33	30.55	6.98	9.98	16.96	(13.59)
Minneapolis Employees (Chapter 422A)	17.97	22.84	2.97	43.78	9.75	34.03**	43.78	0.00

*Equal to the total statutory requirement less the normal cost.

**Includes State contributions of 11.26%.

TABLE 2
PATTERN OF SUFFICIENCY (DEFICIENCY): 1989-1991

Fund	Actuarial Requirements		Statutory Requirements		Sufficiency (Deficiency)	
	1989	1990	1989	1990	1989	1990
Public Employees	8.83%	10.04% ⁽²⁾	9.33%	9.25%	0.50%	(0.79)%
Police & Fire	16.21	17.56 ⁽²⁾	20.00	20.00	3.79	2.44
Police & Fire Consolidation	47.37	48.08	47.37	48.08	0.00	0.00
State Employees	8.14	8.17	8.85	8.44 ⁽³⁾	0.71	0.27
State Patrol	21.84	22.15	27.40	23.38 ⁽³⁾	5.56	1.23
Correctional	10.87	10.73	13.60	11.17 ⁽³⁾	2.73	0.44
Legislators	31.52	32.62	T.F.	T.F.	N/A	N/A
Elective State Officers	33.75	34.84	T.F.	T.F.	N/A	N/A
Judges	24.30	23.59	T.F.	T.F.	N/A	N/A
Teachers	12.52	13.11 ⁽²⁾	13.66	12.80 ⁽³⁾	1.14	(0.31)
Duluth Teachers	11.16	10.70	10.29	10.29	(0.87)	(0.41)
St. Paul Teachers	19.75	18.86 ⁽²⁾	15.98	15.64	(3.77)	(3.22)
Minneapolis Teachers	30.28	30.40	18.21	17.36	(12.07)	(13.04)
Minneapolis Employees	38.51	39.15	38.51	39.15	0.00	0.00

(1) Substantive benefit change implemented.

(2) Assumption change implemented.

(3) Change in Statutory Rate implemented.

TABLE 3

ACCRUED BENEFIT FUNDING RATIOS: 1989-1991
(DOLLARS IN MILLIONS)

Fund	Current Assets			P.V. of Accrued Benefit			A.B. Funding Ratio		
	1989	1990	1991	1989	1990	1991	1989	1990	1991
	Public Employees	\$2,992	\$3,297	\$3,570	\$3,714	\$4,090	\$4,458	80.56%	80.62%
Police & Fire	657	755	840	582	657	733	112.77	114.87	114.55
Police & Fire Consolidation	30	87	143	43	117	209	69.94	73.86	68.59
State Employees	1,872	2,108	2,304	2,109	2,328	2,520	88.73	90.55	91.44
State Patrol	167	186	200	184	198	215	90.78	93.62	93.22
Correctional	85	97	106	79	88	95	107.96	110.73	111.39
Legislators	12	13	15	27	30	30	45.62	42.99	49.57
Elective State Officers	0.3	0.4	0.3	1.9	2.1	2.2	16.25	16.65	14.25
Judges	23	28	34	64	68	76	36.43	41.25	44.00
Teachers	4,568	5,132	5,615	5,549	6,029	6,537	82.31	85.12	85.89
Duluth Teachers	87	97	105	93	97	109	92.71	99.88	96.35
St. Paul Teachers	260	297	326	406	437	466	64.19	67.93	70.04
Minneapolis Teachers	385	408	425	730	766	780	52.76	53.25	54.48
Minneapolis Employees	777	829	824 ⁽³⁾	1,005	1,052	1,080 ⁽²⁾	77.24	78.79	76.26

(1) Substantive benefit change implemented.

(2) Assumption change implemented.

(3) Unusual asset experience.

II. PLAN PROVISIONS

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

For the July 1, 1991 Actuarial Valuation, we highlight the following:

Public Employees (Chapter 353): The \$1,000 maximum family death benefit was changed to 70% of average monthly salary. This resulted in an increase in the required actuarial funding.

Police and Fire (Chapter 353): None.

Police and Fire Consolidation: Added eight new accounts:

- Chisolm Fire
- Chisolm Police
- Crookston Fire
- Faribault Fire
- Mankato Fire
- Rochester Fire
- St. Louis Park Police
- Winona Police

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): Changed from a terminal funding approach to an annual contribution rate of 22% of payroll.

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): The maximum survivor's benefit was increased resulting in a small increase in funding requirements. A cap on the State's funding obligation was implemented, as were modest changes in the specified economic assumptions.

III. ACTUARIAL ASSUMPTIONS (TABLES 4, 5 AND 6)

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. In order 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 which 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 of 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 4-6 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, 1991 Actuarial Valuation for that Fund. It is anticipated that these assumptions for the major plans will be reviewed every four years via a formal experience study. The next formal experience study is scheduled for the 1992-93 contract year (following the July 1, 1992 valuations).

In our opinion, the assumptions used for the July 1, 1991 valuations are reasonable and well within the mainstream of current actuarial practice. Until the completion of the formal experience study, we have no recommendation concerning changes to the actuarial assumptions.

TABLE 4

JULY 1, 1991 ACTUARIAL ASSUMPTIONS - CATEGORY 1

Fund	Interest Rates Pre-retire/Post-retire	Salary Increase %/Data Used	Social Security	COLA on Benefits
Public Employees (Chapter 353)	8.5%/5.0%	6.5%/Prior Year Salary Increased	N/A	Implied by 5.0% Interest Rate
Police and Fire (Chapter 353)	8.5%/5.0%	6.5% Prior Year Salary Increased	N/A	Implied by 5.0% Interest Rate
Police and Fire Consolidation	8.5%/5.0% (PERA) 8.5% (Local)	6.5%/Prior Year Salary Increased	N/A	5.0% Implied (PERA) 6.5% Explicit (Local)
State Employees (Chapter 352)	8.5%/5.0%	6.5%/Reported Salary Increased	N/A	Implied by 5.0% Interest Rate
State Patrol (Chapter 352B)	8.5%/5.0%	6.5%/Reported Salary Increased	N/A	Implied by 5.0% Interest Rate
Correctional (Chapter 352)	8.5%/5.0%	6.5%/Reported Salary Increased	Current Law and 6.5% Salary Scale	Implied by 5.0% Interest Rate
Legislators (Chapter 3A)	8.5%/5.0%	Statutory Salary 3% then 6.5%	N/A	Implied by 5.0% Interest Rate
Elective State Officers (Chapter 352C)	8.5%/5.0%	Statutory Salary 2.5% then 6.5%	N/A	Implied by 5.0% Interest Rate
Judges (Chapter 490)	8.5%/5.0%	Statutory Salary 3% then 6.5%	Maximum PIA With Salary Scale	Implied by 5.0% Interest Rate
Teachers (Chapter 354)	8.5%/5.0%	6.5%/Reported Salary Increased	N/A	Implied by 5.0% Interest Rate
Duluth Teachers (Chapter 354A)	8.5%/8.5%	6.5%/Reported Salary Increased	N/A	Bonus of 1% Charged to Interest Rate
St. Paul Teachers (Chapter 354A)	8.5%/8.5%	6.5%/Reported Salary Increased	N/A	Bonus of 1% Charged to Interest Rate
Minneapolis Teachers (Chapter 354A)	8.5%/8.5%	6.5%/Reported Salary Increased	N/A	2% Explicit Plus 1/2% Bonus Charge
Minneapolis Employees (Chapter 422A)	6.0%/5.0%	4.0%/Reported Pay Increased	N/A	Implied by 5.0% Interest Rate

TABLE 5

JULY 1, 1991 ACTUARIAL ASSUMPTIONS - CATEGORY 2

Fund	Mortality Table (male rates shown)	Disability Table (male rates shown)	Retirement Age	Other Separation (male rates shown)
Public Employees (Chapter 353)	1971 GAM projected to 1984 by Scale D*	Graded: .12% @ 35 .58% @ 55	Age 64 and 50% of Rule of 90 (first year only)	Graded: 10.53% @ 35 .78% @ 55
Police and Fire (Chapter 353)	1971 GAM projected to 1984 by Scale D*	Graded: .19% @ 35 1.35% @ 55	Age 60	Graded: 1.83% @ 35 .11% @ 55
Police and Fire Consolidation	1971 GAM projected to 1984 by Scale D*	Graded: .19% @ 35 1.35% @ 55	Varies between ages 50-60	Graded: 1.83% @ 35 .11% @ 55
State Employees (Chapter 352)	1971 GAM*	Graded: .02% @ 35 .34% @ 55	Graded from age 58 and 25% of Rule of 90	Graded: 7.20% @ 35 2.10% @ 55
State Patrol (Chapter 352B)	1971 GAM*	Graded: .11% @ 35 .88% @ 55	Age 58 (age 63 if hired prior to 1961)	Graded: 1.50% @ 35 0.00% @ 55
Correctional (Chapter 352)	1971 GAM*	Graded: .02% @ 35 .34% @ 55	Age 58	Graded: 7.20% @ 35 2.10% @ 55
Legislators (Chapter 3A)	1971 GAM	None	Age 62	Varies based upon service; 0% @ 9 years
Elective State Officers (Chapter 352C)	1971 GAM*	None	Age 62	Varies based upon service; 0% @ 9 years
Judges (Chapter 490)	1971 GAM	Graded: .02% @ 35 .34% @ 55	Age 68	None
Teachers (Chapter 354)	1971 GAM set back 8 years	Graded: .06% @ 35 .36% @ 55	Age 62 and 30% of Rule of 90	Select & ultimate graded
Duluth Teachers (Chapter 354A)	1971 GAM set back 8 years	Graded: .29% @ 35 .87% @ 55	Age 61 Old Plan Age 63 New Plan 30% Under Rule of 90	Graded: 4.91% @ 35 .13% @ 55
St. Paul Teachers (Chapter 354A)	1971 GAM set back 8 years	Graded: .10% @ 35 .40% @ 55	Age 62 With 30 Years and 30% of Rule of 90	Graded: 4.5% @ 35 1.0% @ 55
Minneapolis Teachers (Chapter 354A)	1971 GAM set back 8 years	Graded: .05% @ 35 .36% @ 55	Age 63 (60 for Basic) and 30% of Rule of 90	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

*Except post-disability.

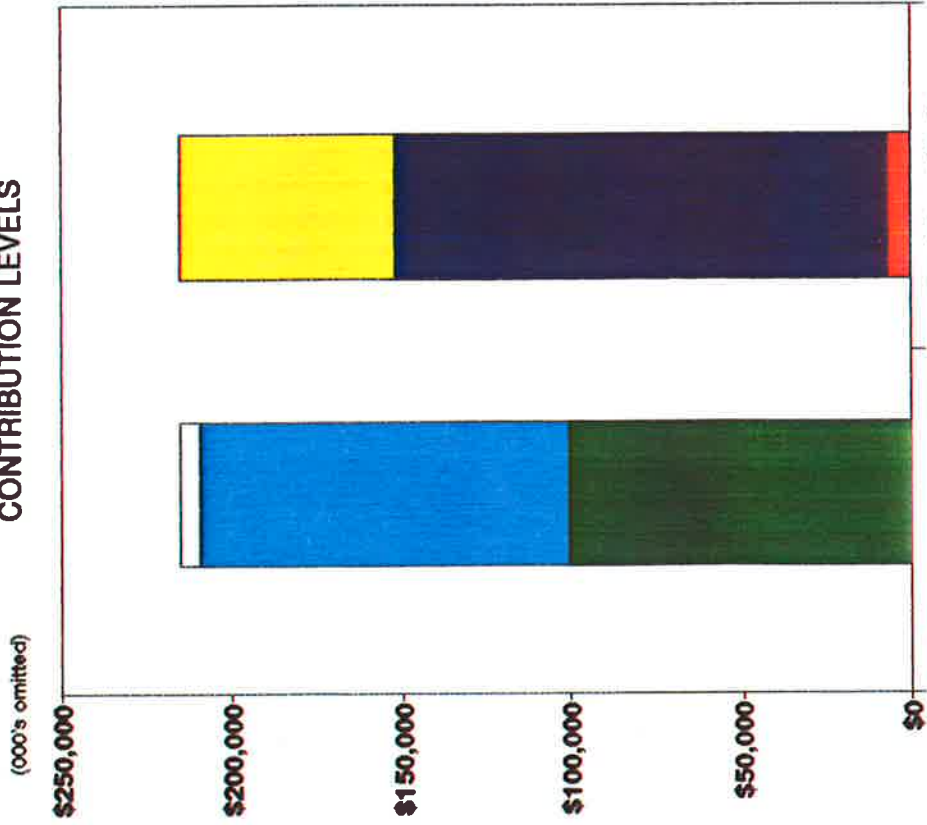
TABLE 6

JULY 1, 1991 ACTUARIAL ASSUMPTIONS - CATEGORY 3

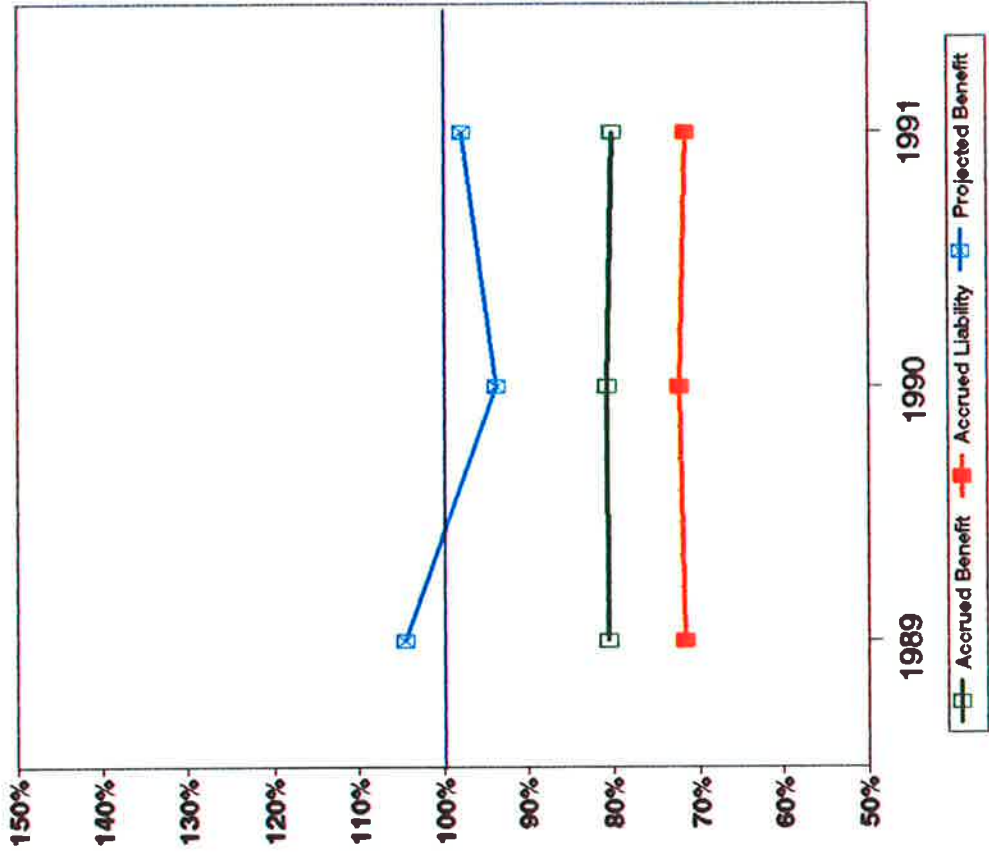
Fund	Family Composition (Male/Female)	Expenses	Bounceback Annuity Election (Male/Female)	Other
Public Employees (Chapter 353)	85%/65% married; no children	Prior year as % of payroll	30%/15% for 50% J&S 45%/15% for 100% J&S	None
Police and Fire (Chapter 353)	85%/65% married; no children	Prior year as % of payroll	40%/15% for 50% J&S 45%/15% for 100% J&S	None
Police and Fire Consolidation	85%/65% married; no children	Expenses paid outside the fund	40%/15% for 50% J&S 45%/15% for 100% J&S	None
State Employees (Chapter 352)	85%/85% married	Prior year as % of payroll	25%/ 5% for 50% J&S 45%/ 5% for 100% J&S	None
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%/10% for 50% J&S 50%/10% for 100% J&S	None
Duluth Teachers (Chapter 354A)	80%/80% married	Prior year as % of payroll	40%/10% for 50% J&S 40%/10% 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	None
Minneapolis Teachers (Chapter 354A)	80%/60% married	Prior years as % of payroll	15%/10% for 50% J&S 50%/10% for 100% J&S	None
Minneapolis Employees (Chapter 422A)	67%/67% married	Prior year increased by 4% as % of payroll	None	None

PUBLIC EMPLOYEES

CONTRIBUTION LEVELS



FUNDING RATIOS

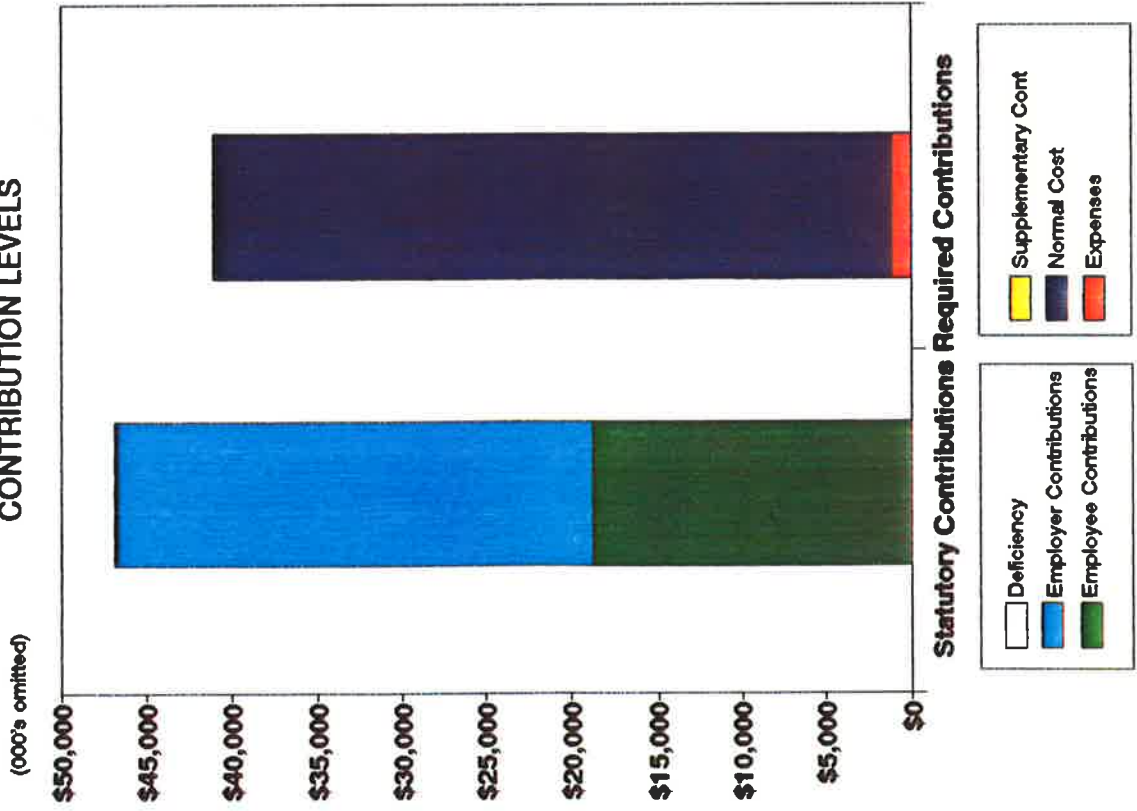


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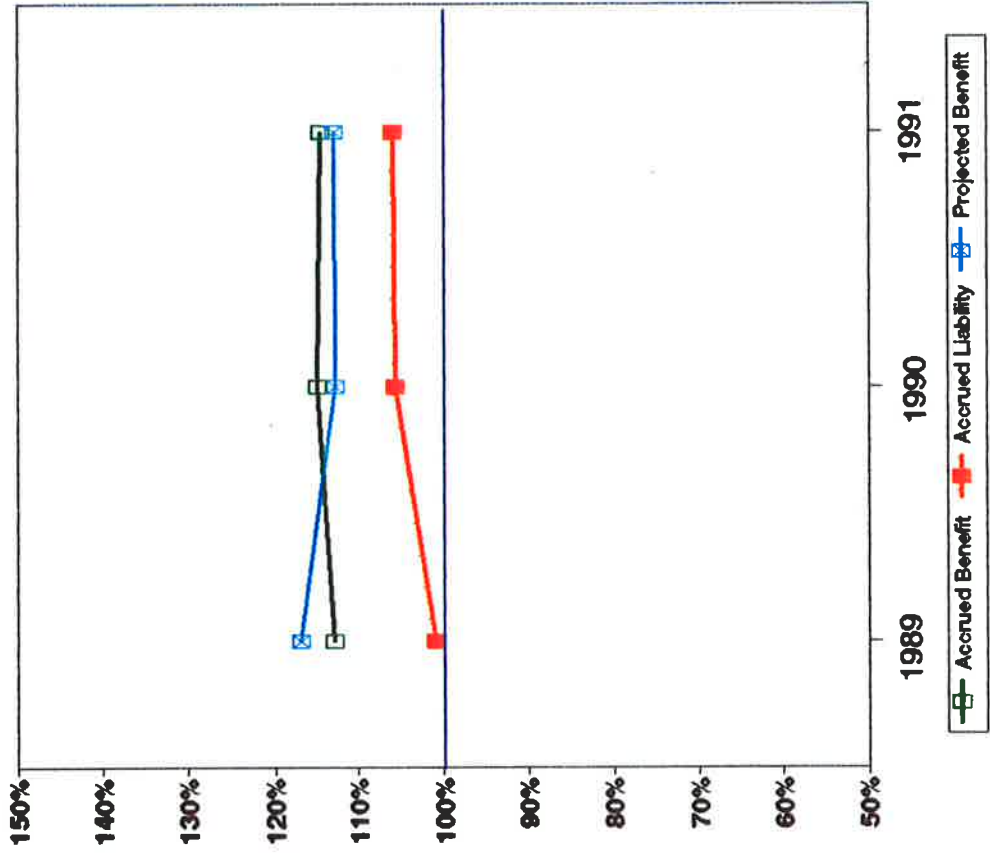
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- Employer Contributions
- Employee Contributions
- Supplementary Cont
- Normal Cost
- Expense

POLICE & FIRE

CONTRIBUTION LEVELS

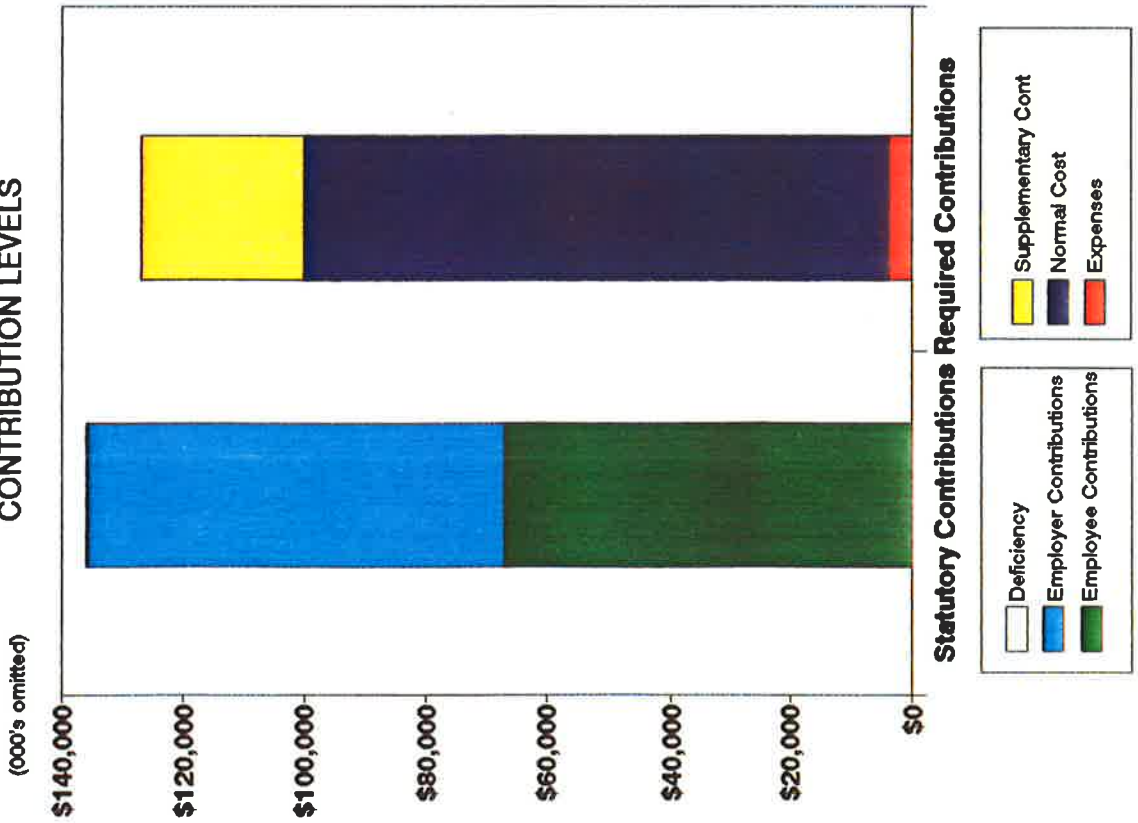


FUNDING RATIOS

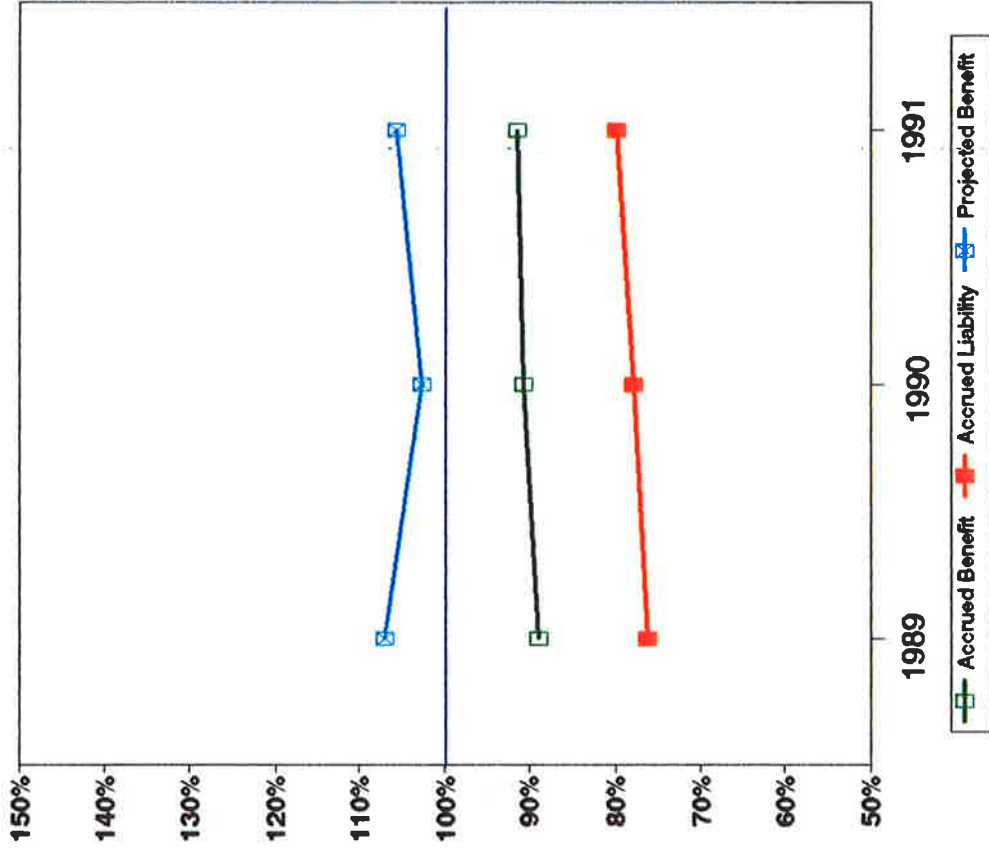


STATE EMPLOYEES

CONTRIBUTION LEVELS

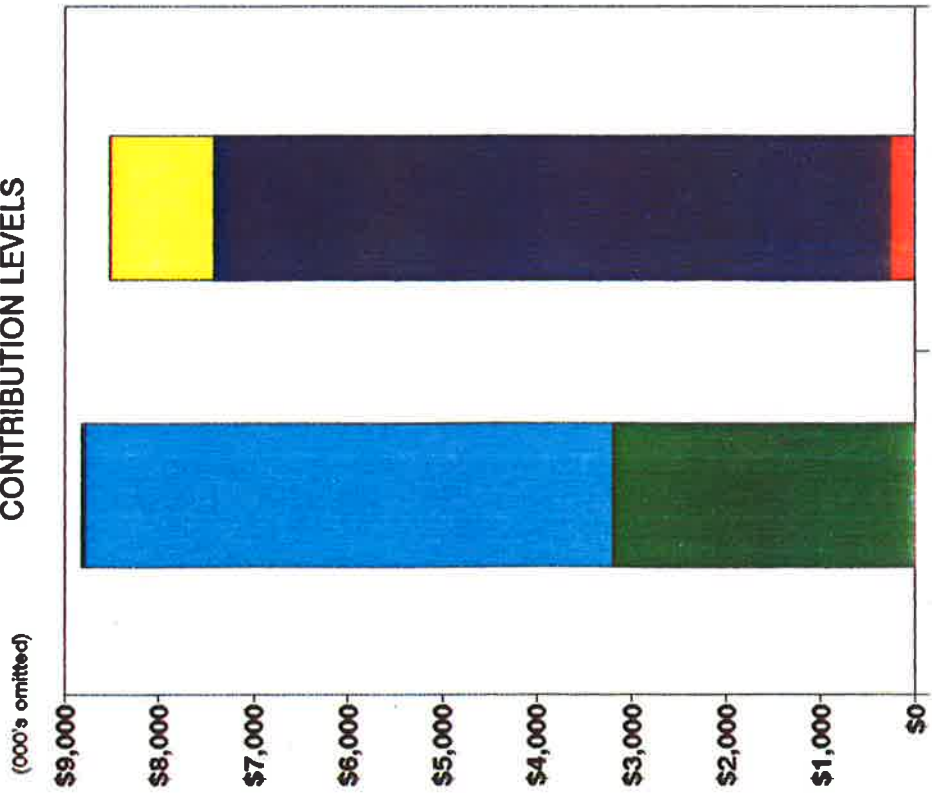


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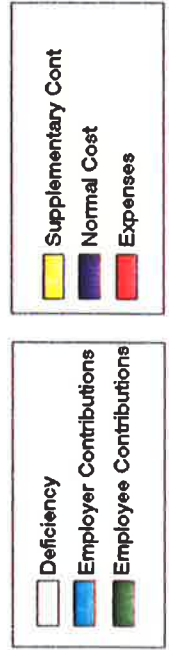


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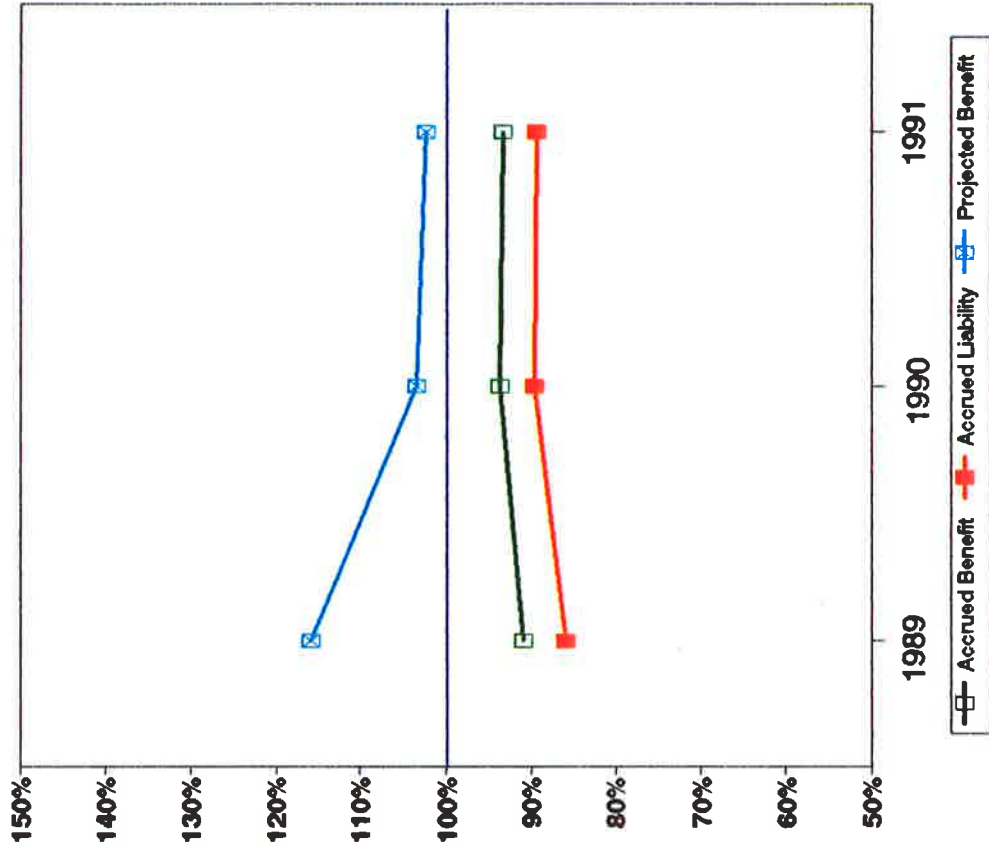
CONTRIBUTION LEVELS



Statutory Contributions Required Contributions

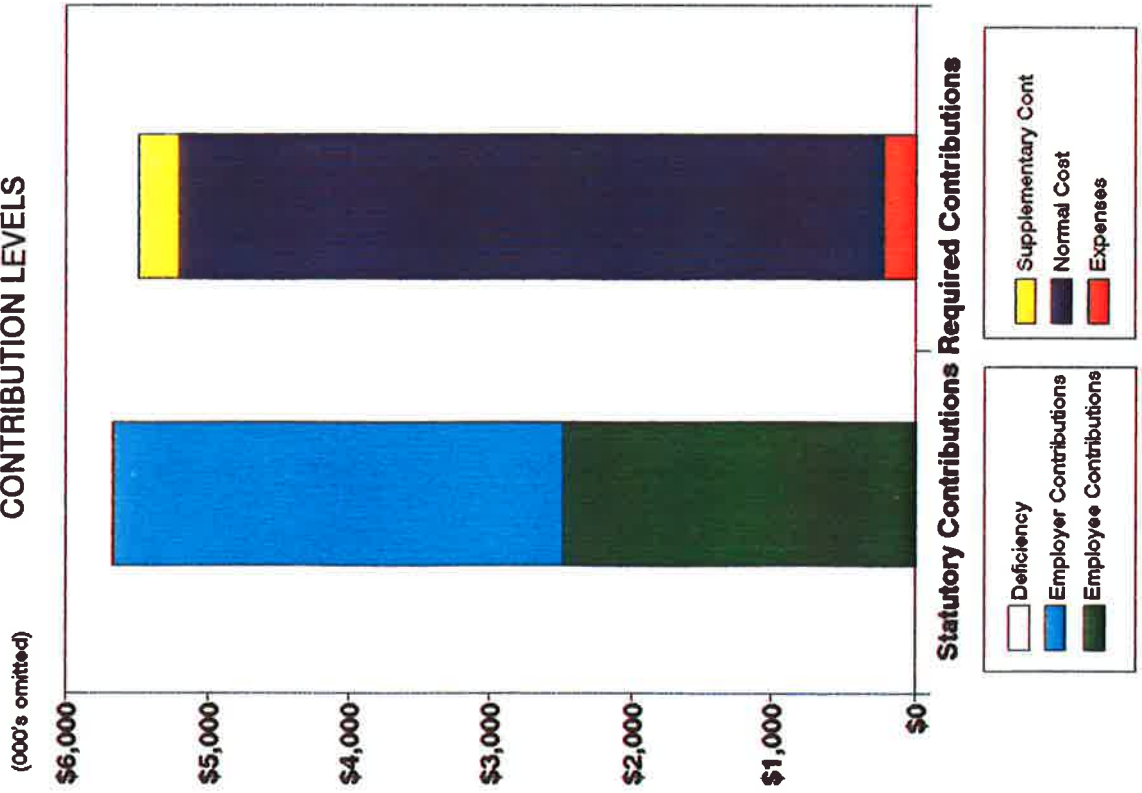


FUNDING RATIOS

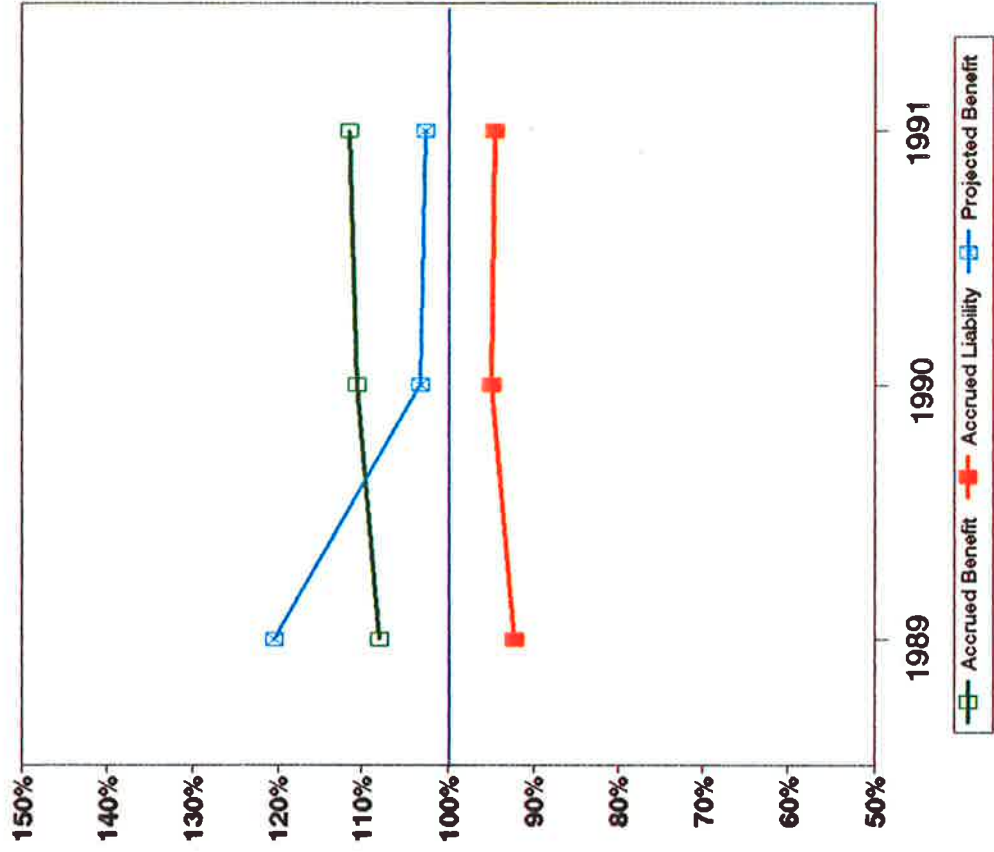


CORRECTIONAL EMPLOYEES

CONTRIBUTION LEVELS



FUNDING RATIOS



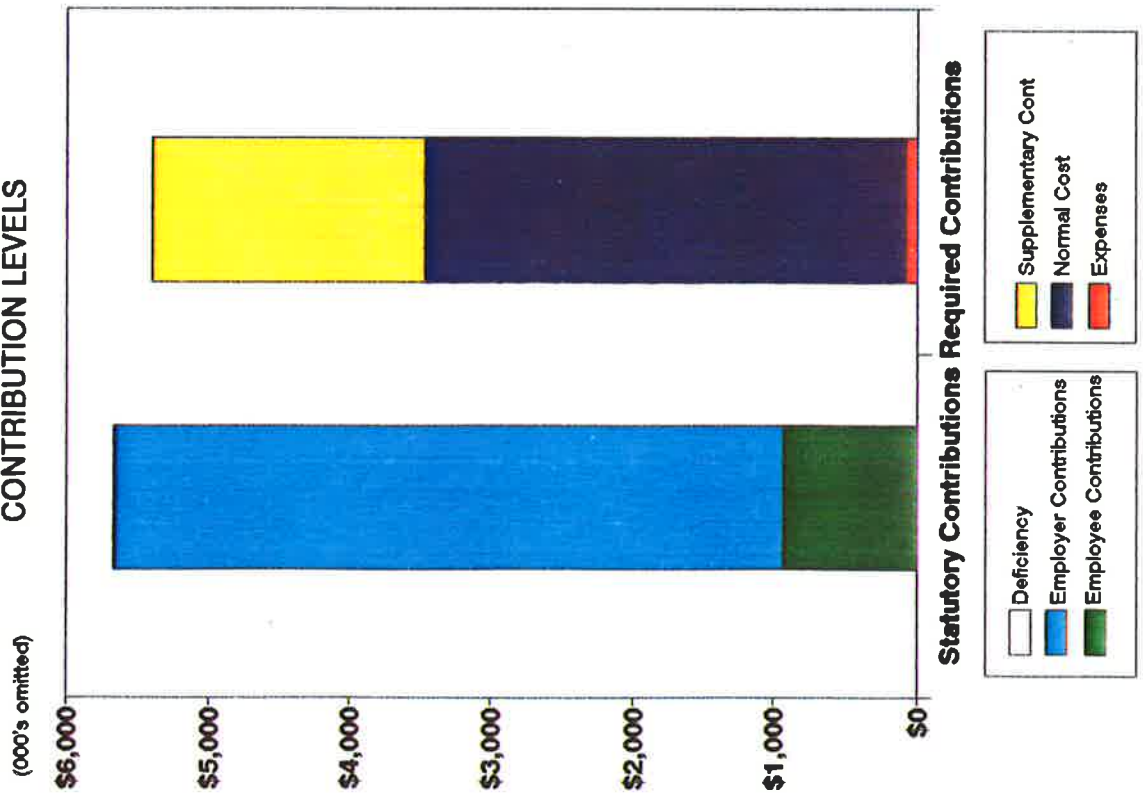
Statutory Contributions Required Contributions

- Employee Contributions
- Employer Contributions
- Deficiency

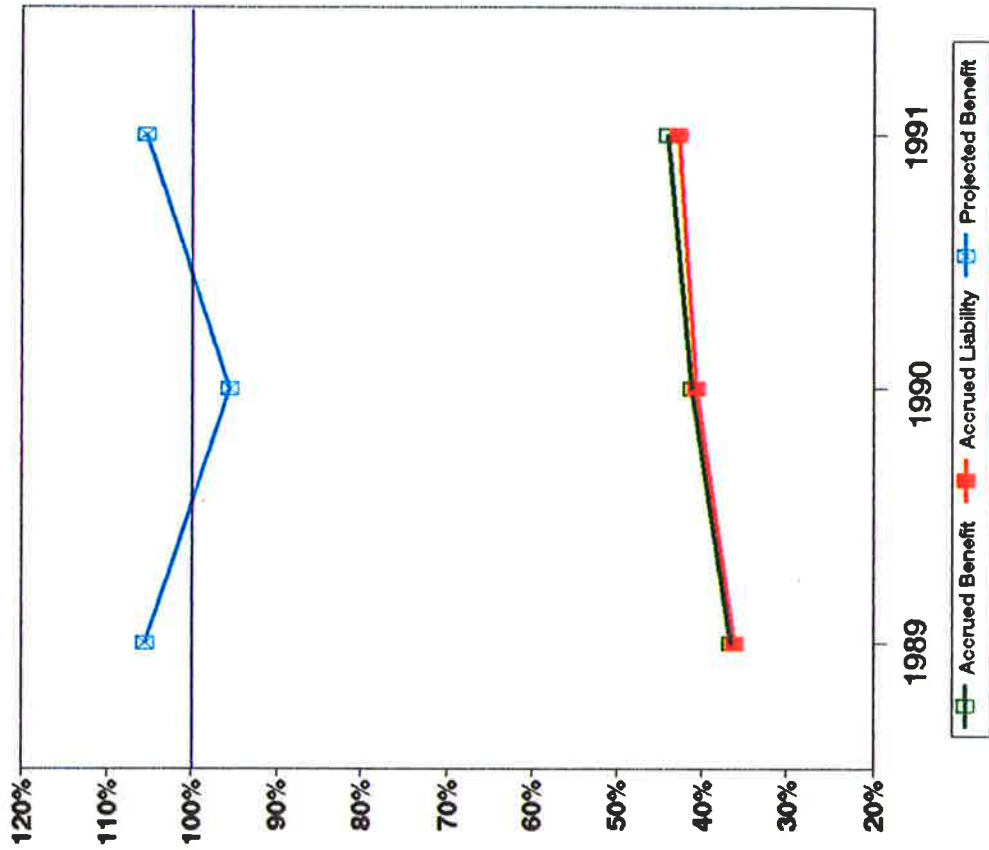
- Supplementary Cont
- Normal Cost
- Expenses

JUDGES

CONTRIBUTION LEVELS

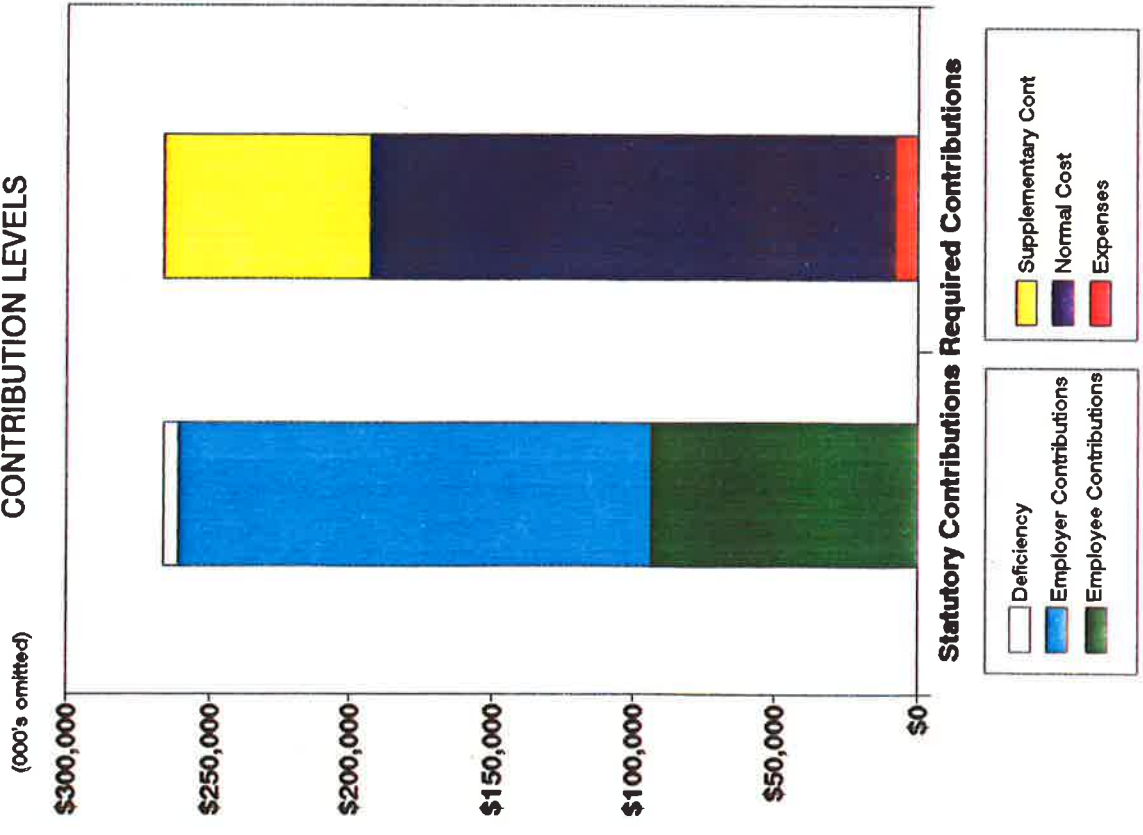


FUNDING RATIOS

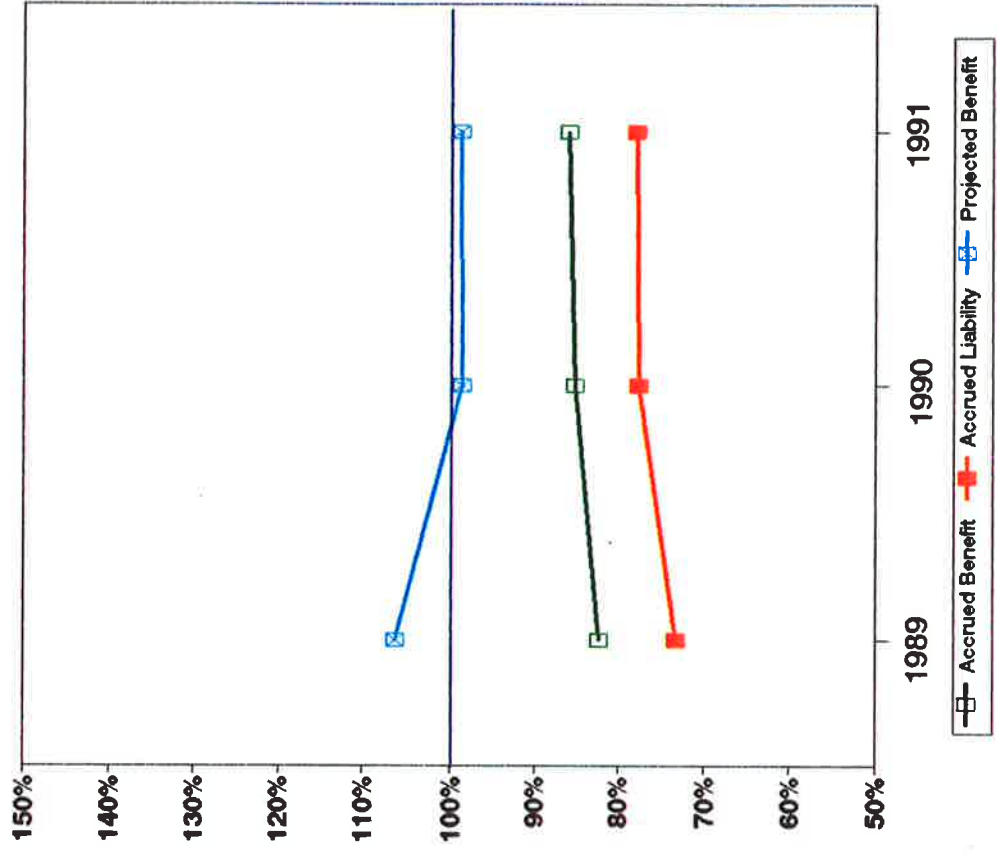


TEACHERS RETIREMENT ASSOCIATION

CONTRIBUTION LEVELS

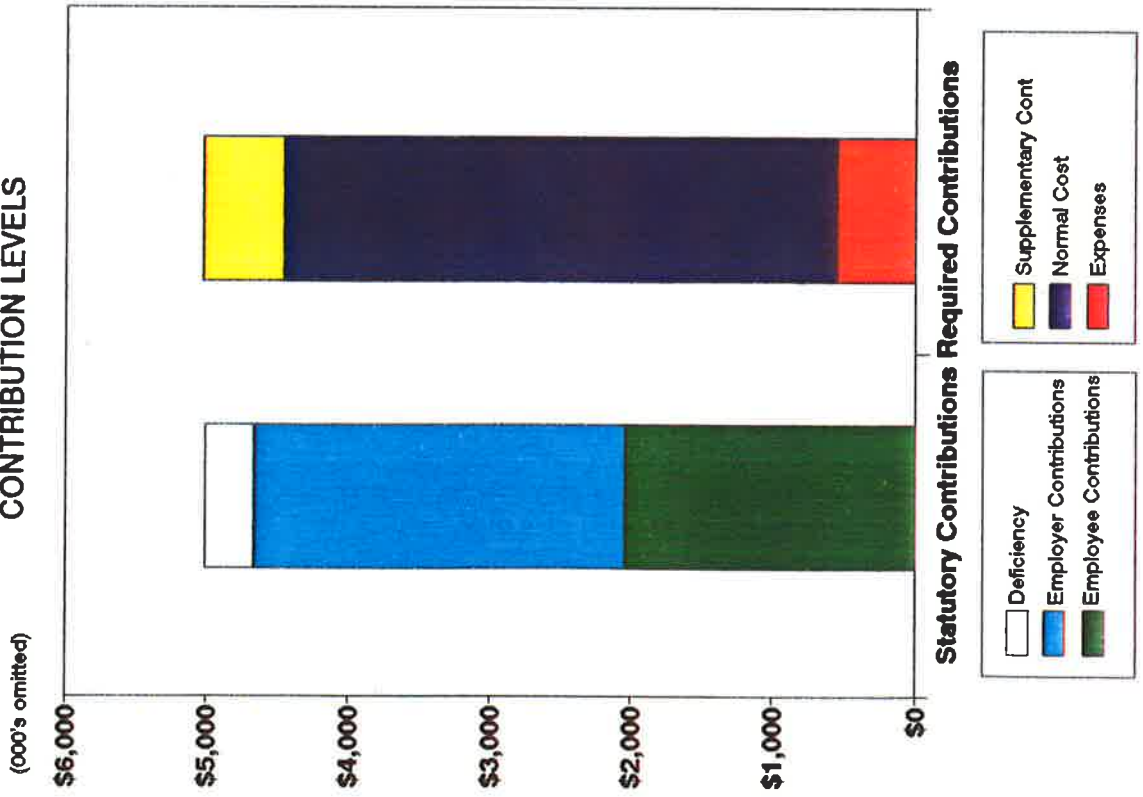


FUNDING RATIOS

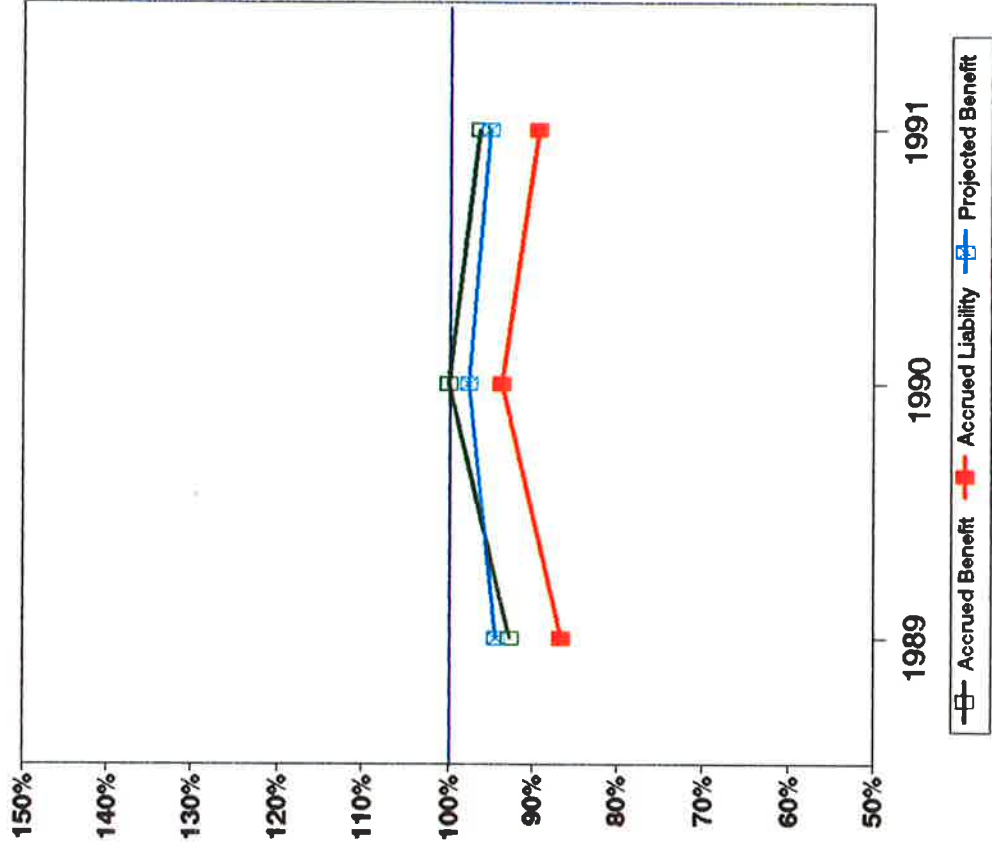


DULUTH TEACHERS

CONTRIBUTION LEVELS



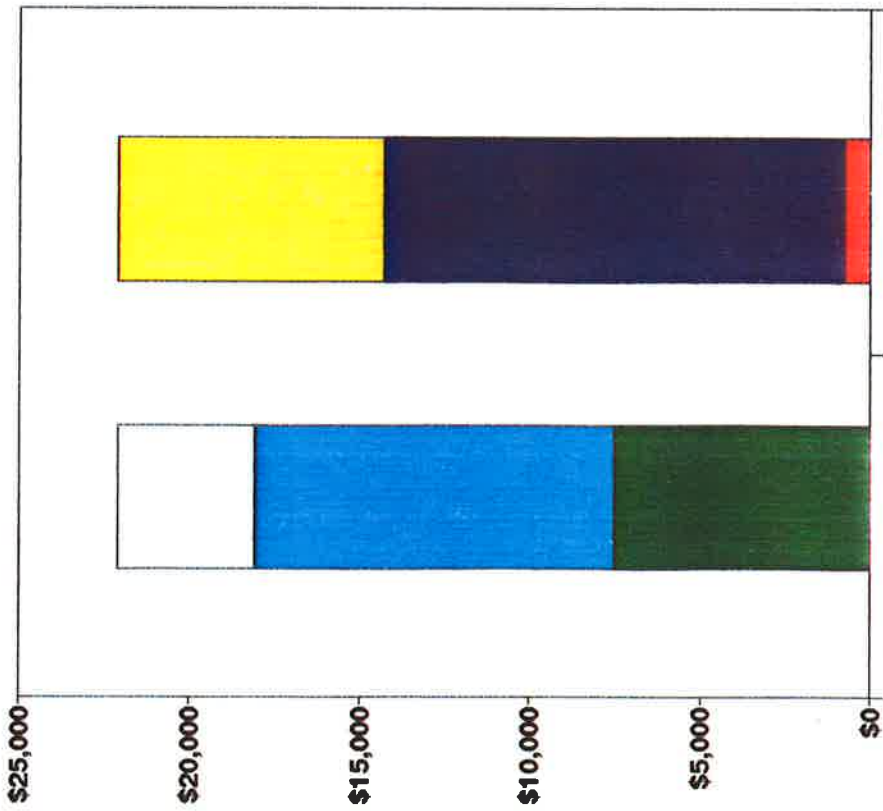
FUNDING RATIOS



ST. PAUL TEACHERS

CONTRIBUTION LEVELS

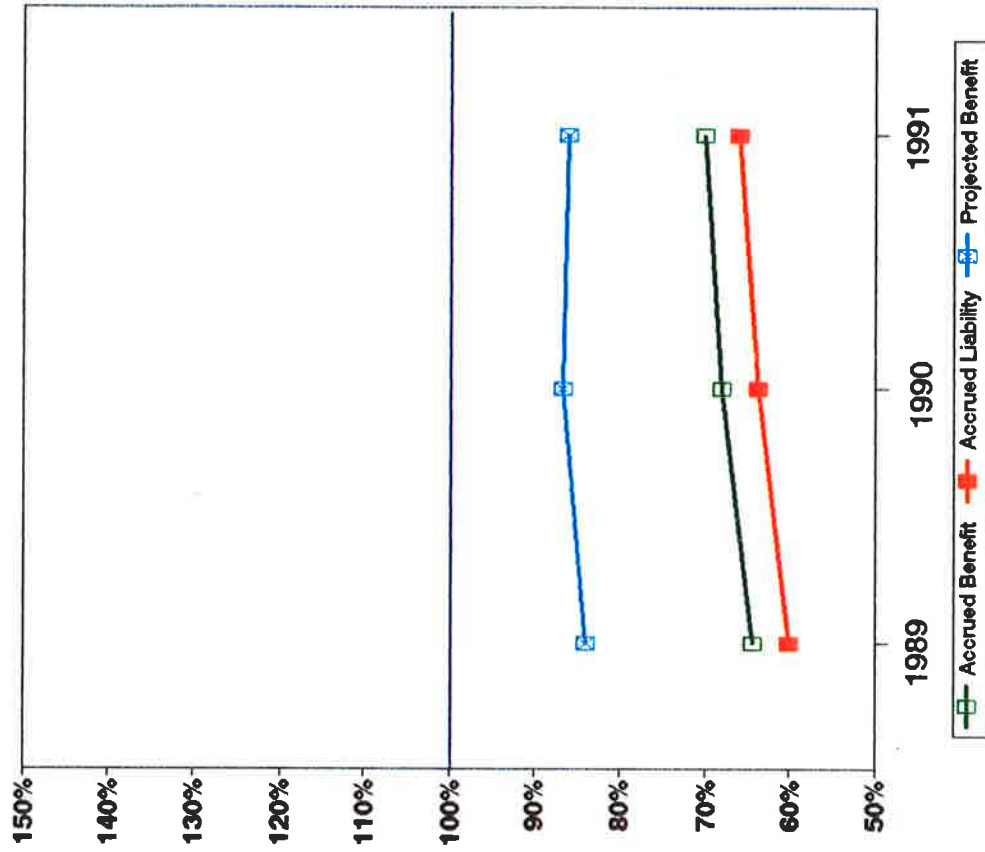
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Statutory Contributions Required Contributions

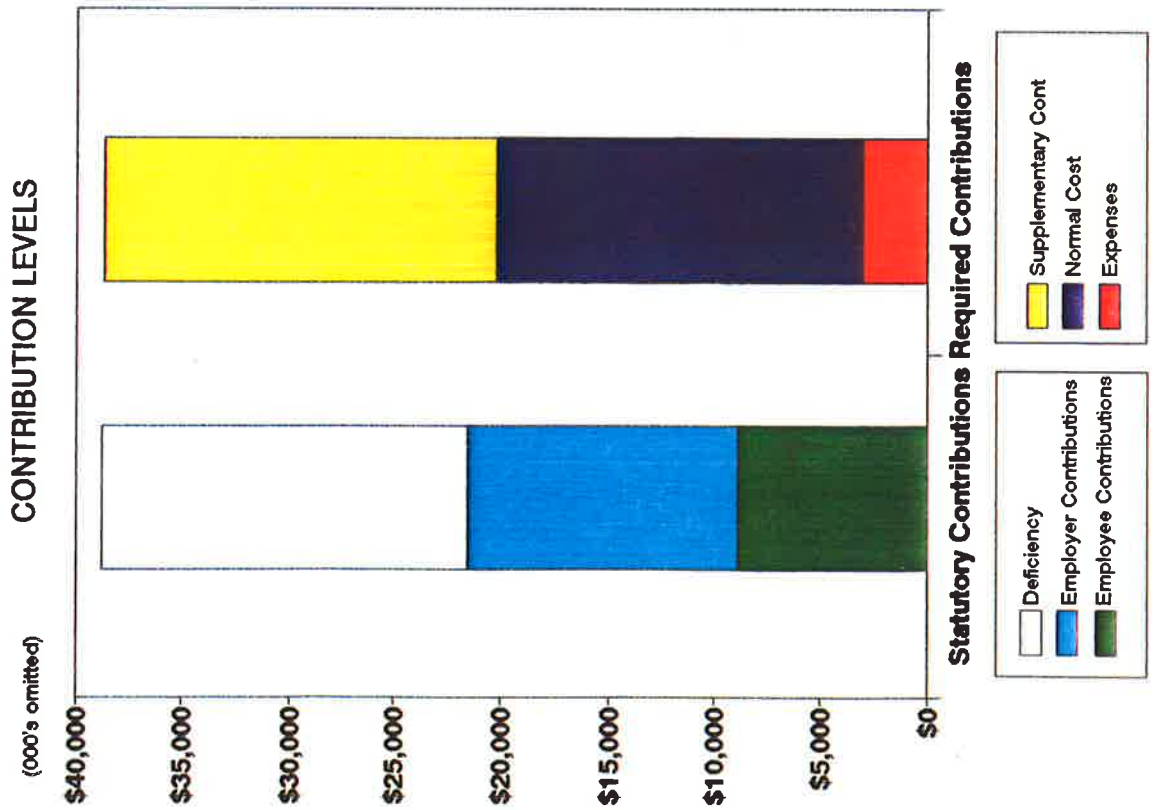


FUNDING RATIOS

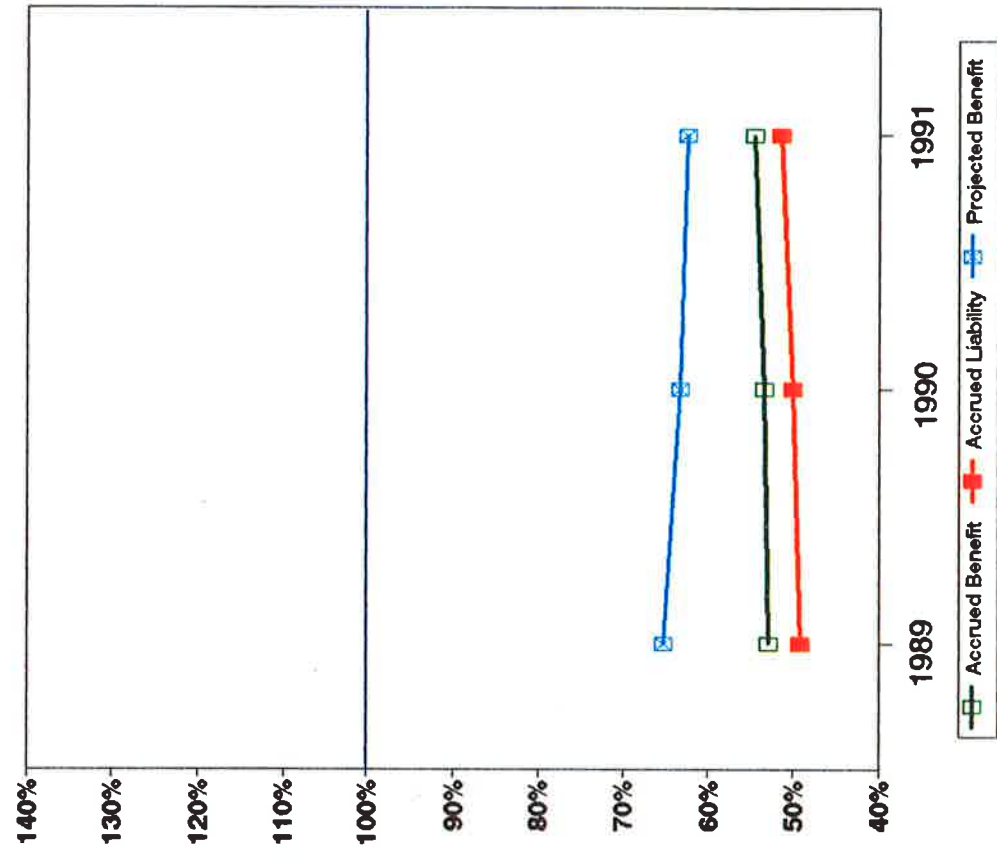


MINNEAPOLIS TEACHERS

CONTRIBUTION LEVELS



FUNDING RATIOS



MINNEAPOLIS EMPLOYEES

