

# **MINNESOTA STATE RETIREMENT SYSTEM**

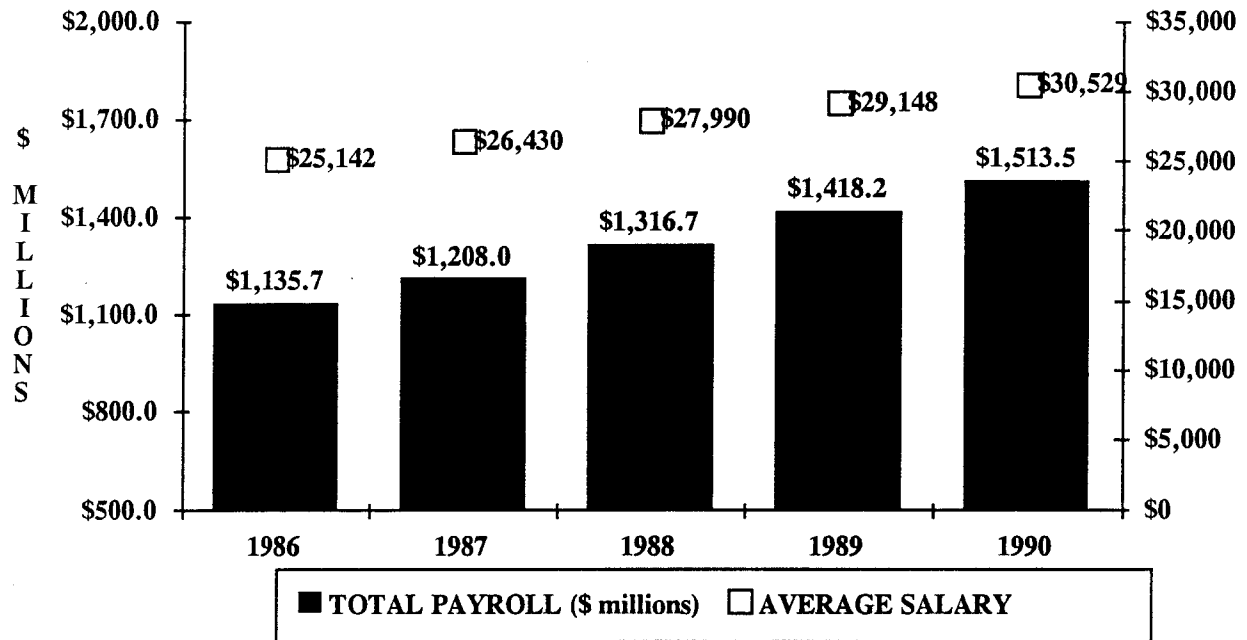
**Review of  
Actuarial Valuations  
as of  
June 30, 1990**

 **FILE COPY**

**Deloitte &  
Touche**

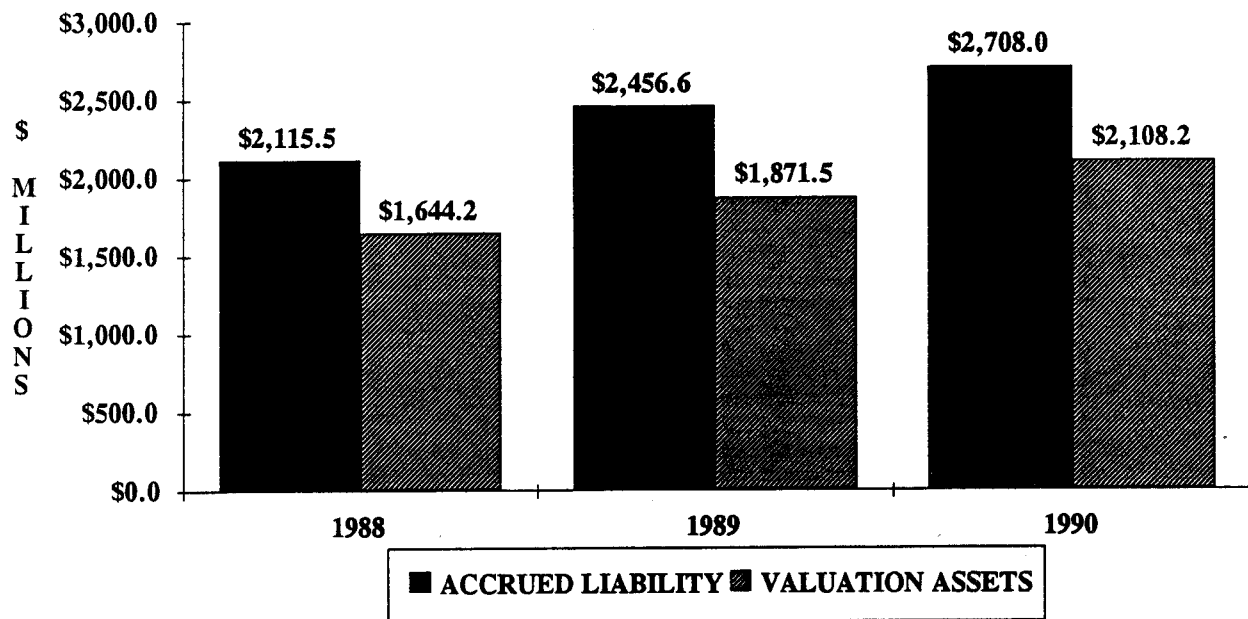


**GENERALS ACTIVE MEMBERS  
TOTAL PAYROLL AND AVERAGE SALARY**



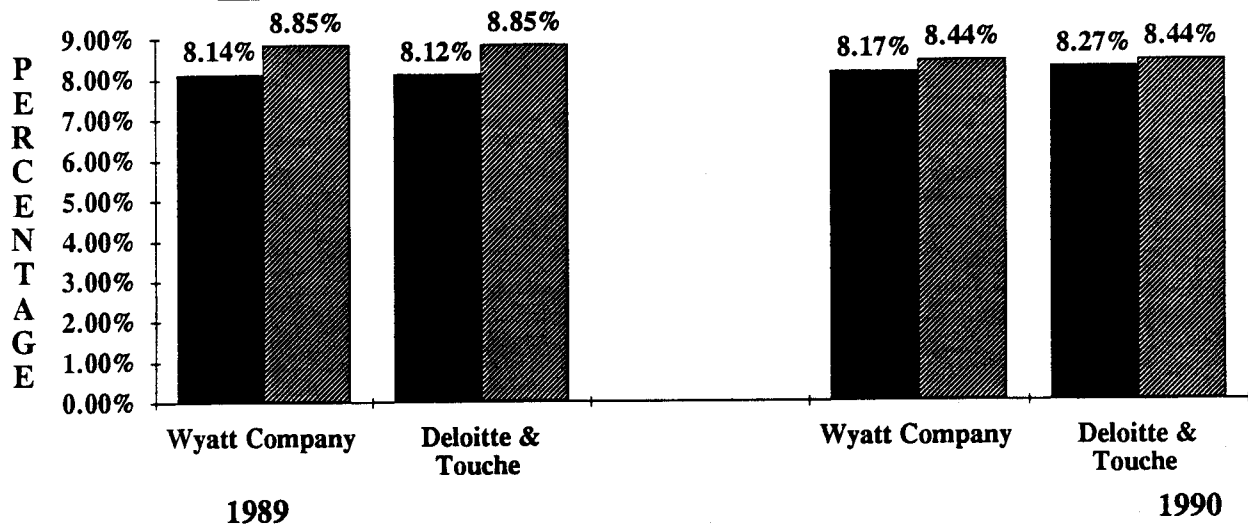
Members	45,171	45,707	47,040	48,653	49,576
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**GENERAL STATE EMPLOYEES' PLAN  
TABLE A**



	1988	1989	1990
Accrued Liability	\$2,115.5	\$2,456.6	\$2,708.0
Valuation Assets	1,644.2	1,871.5	2,108.2
Unfunded Accrued Liability	471.3	585.1	599.8
Funded Ratio	77.7%	76.2%	77.9%

**GENERAL STATE EMPLOYEES' PLAN  
TABLE B**

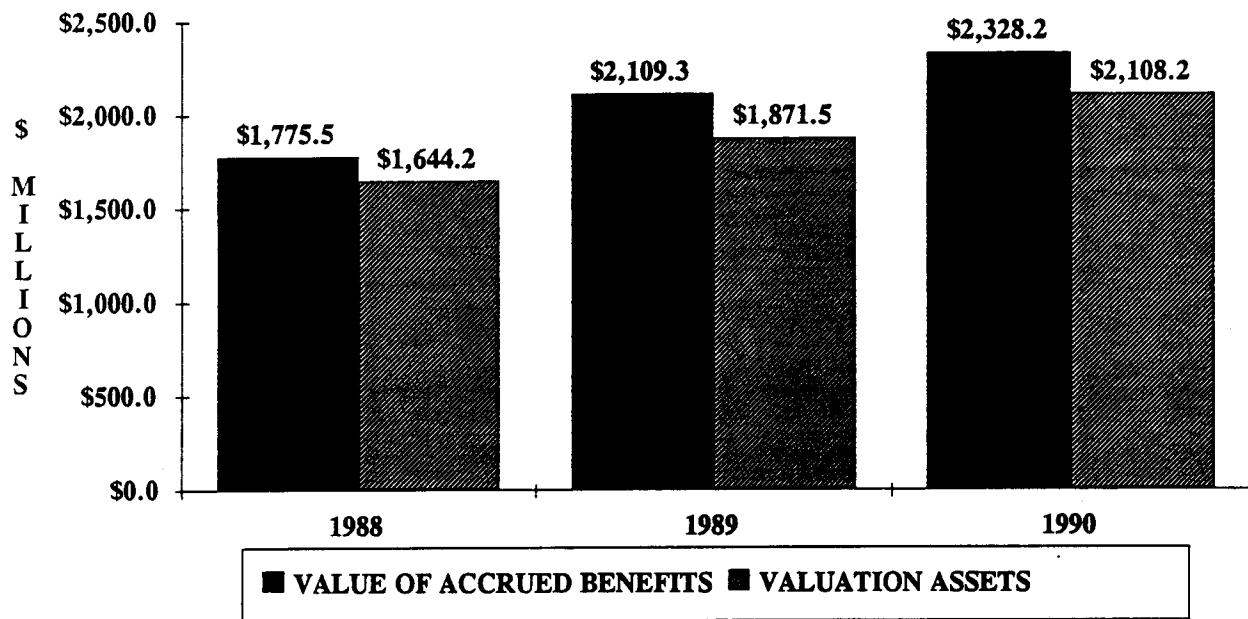


■ REQUIRED CONTRIBUTION (as a percent of payroll)     
 ▨ PRESCRIBED CONTRIBUTION (as a percent of payroll)

	1989		1990	
	Wyatt Company	Deloitte & Touche	Wyatt Company	Deloitte & Touche
Required Contribution	\$115,474 (8.14%)	\$115,115 (8.12%)	\$123.6 (8.17%)	\$125.3 (8.27%)
Prescribed Contribution	\$125,507 (8.85%)	\$125,507 (8.85%)	\$127.7 (8.44%)	\$127.9 (8.44%)
Sufficiency/(Deficiency)	.71%	.73%	.27%	.17%



**GENERAL STATE EMPLOYEES' PLAN  
TABLE C**



	1988	1989	1990
Value of Accrued Benefits	\$1,775.5	\$2,109.3	\$2,328.2
Valuation Assets	1,644.2	1,871.5	2,108.2
Depth of Funding	92.6%	88.7%	90.6%
Depth of Funding, Excluding MPRI Members	88.3%	83.0%	85.9%

# GENERAL STATE EMPLOYEES' PLAN

## TABLE D

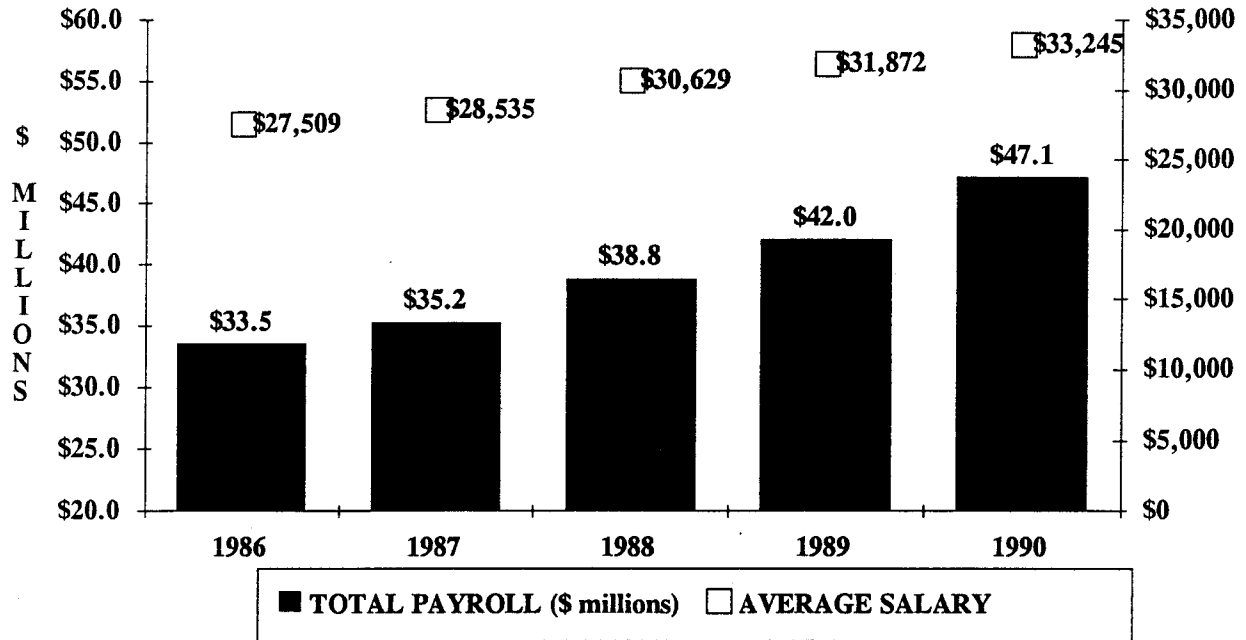
(\$ IN MILLIONS)

### SENSITIVITY TO ASSUMPTIONS

		<u>Value After Change</u>		
	<u>Current</u>	<u>7.5% Interest</u>	<u>6% Salary Increase</u>	<u>Level \$ Amortization</u>
A. Required Contribution				
(Amount)	\$ 125.3	\$ 144.2	\$ 119.8	\$ 152.4
(Percent)	8.27%	9.52%	7.90%	10.06%
(Sufficiency)	0.17%	(1.08%)	0.54%	(1.62%)
B. Value of Accrued Benefits	\$ 2,321.5	\$ 2,484.8	\$ 2,278.1	\$ 2,321.5
C. Depth of Funding	90.8%	84.9%	92.5%	90.8%

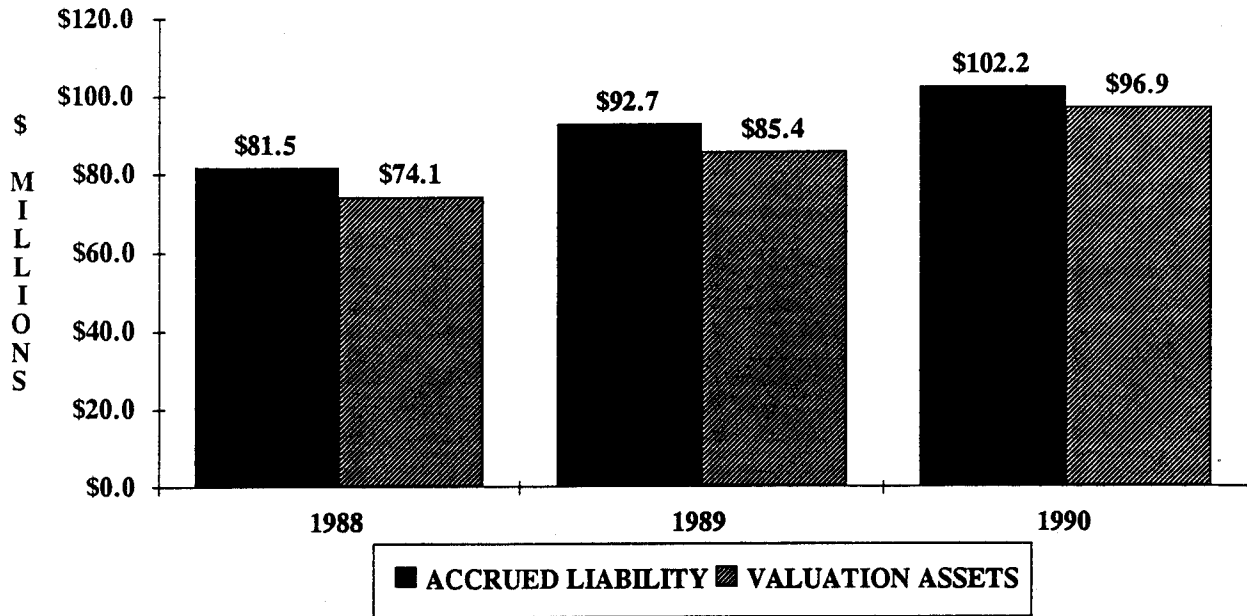


# **CORRECTIONAL ACTIVE MEMBERS TOTAL PAYROLL AND AVERAGE SALARY**



Members	1,219	1,232	1,267	1,317	1,416
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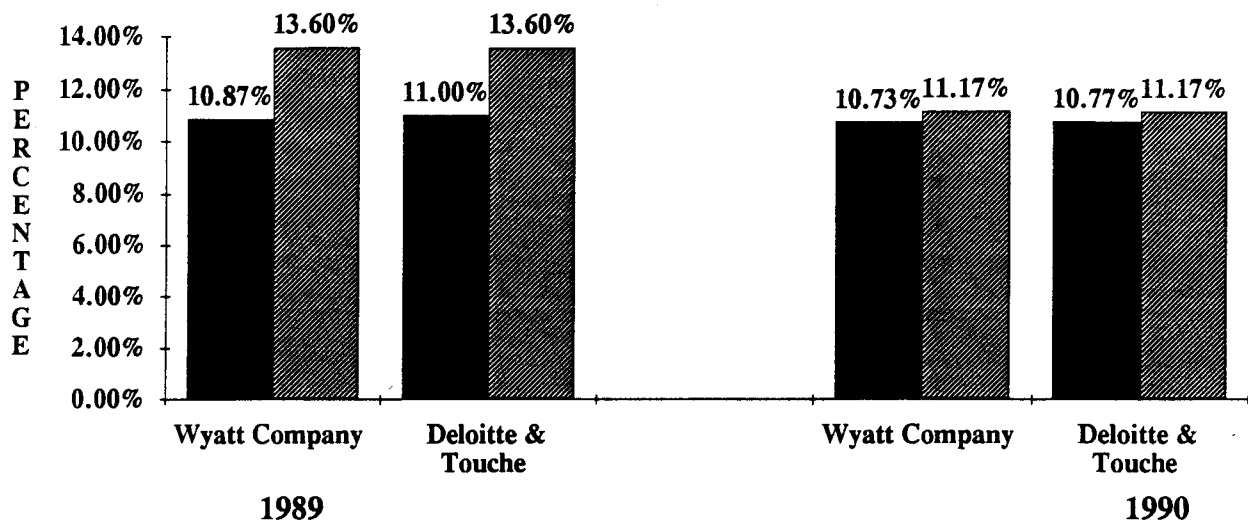
**CORRECTIONAL EMPLOYEES' PLAN  
TABLE A**



	1988	1989	1990
Accrued Liability	\$81.5	\$92.6	\$102.2
Valuation Assets	74.1	85.4	96.9
Unfunded Accrued Liability	7.4	7.2	5.3
Funded Ratio	90.9%	92.2%	94.8%



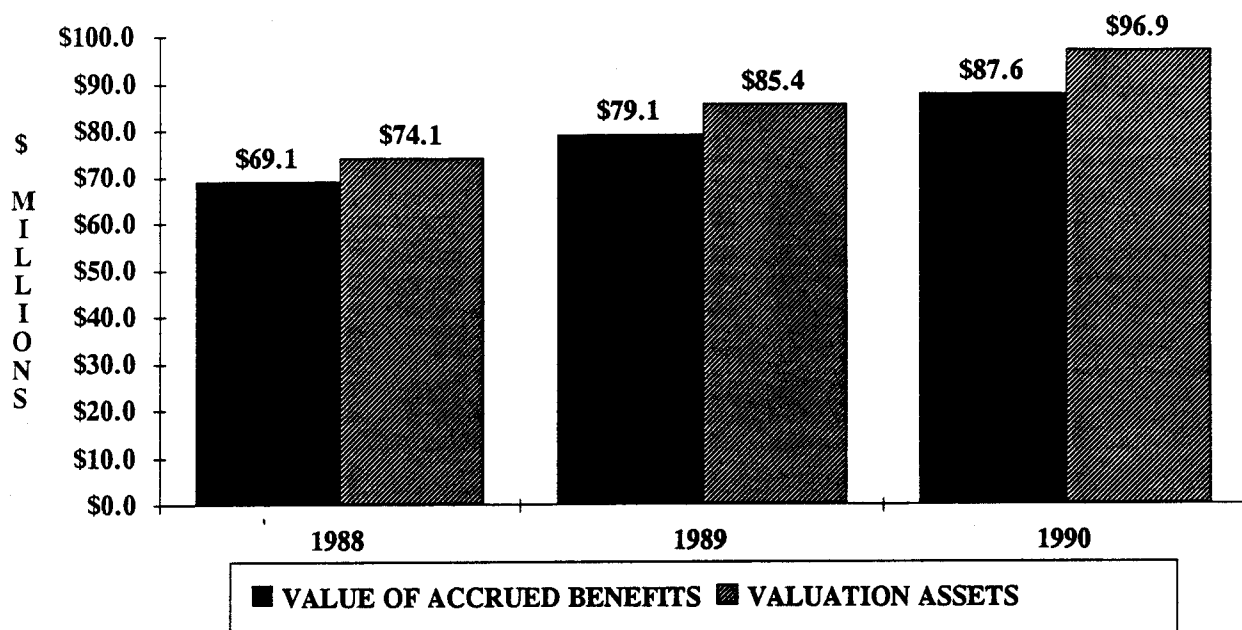
**CORRECTIONAL EMPLOYEES' PLAN  
TABLE B**



■ REQUIRED CONTRIBUTION (as a percent of payroll)     ■ PRESCRIBED CONTRIBUTION (as a percent of payroll)

	1989		1990	
	<u>Wyatt Company</u>	<u>Deloitte &amp; Touche</u>	<u>Wyatt Company</u>	<u>Deloitte &amp; Touche</u>
Required Contribution	\$ 4.5 (10.87%)	\$ 4.6 (11.00%)	\$ 5.1 (10.73%)	\$ 5.1 (10.77%)
Prescribed Contribution	\$ 5.7 (13.60%)	\$ 5.7 (13.60%)	\$ 5.3 (11.17%)	\$ 5.3 (11.17%)
Sufficiency/(Deficiency)	2.73%	2.60%	0.44%	0.40%

**CORRECTIONAL EMPLOYEES' PLAN  
TABLE C**



	1988	1989	1990
Value of Accrued Benefits	\$69.1	\$79.1	\$87.6
Valuation Assets	74.1	85.4	96.9
Depth of Funding	107.1%	108.0%	110.7%
Depth of Funding, Excluding MPRI Members	111.3%	112.4%	116.7%

**CORRECTIONAL EMPLOYEES' PLAN**

**TABLE D**

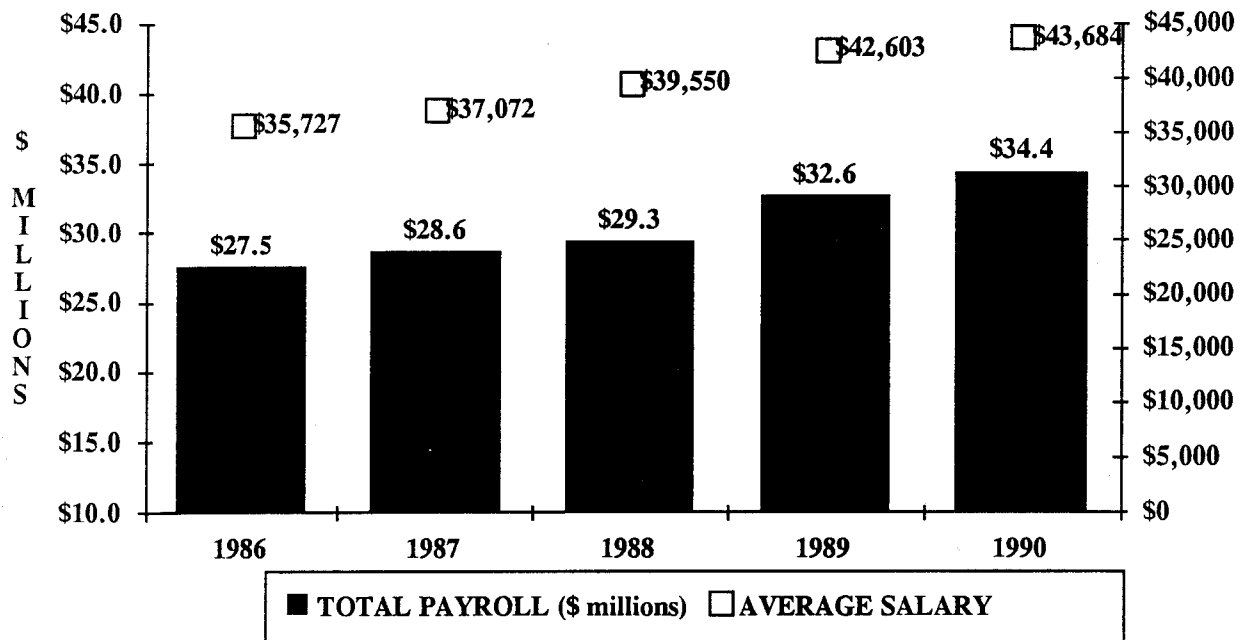
**(\$ IN MILLIONS)**

**SENSITIVITY TO ASSUMPTIONS**

	<u>Current</u>	<u>Value After Change</u>		
		<u>7.5% Interest</u>	<u>6% Salary Increase</u>	<u>Level \$ Amortization</u>
A. Required Contribution				
(Amount)	\$ 5.1	\$ 6.0	\$ 4.7	\$ 5.3
(Percent)	10.77%	12.77%	10.07%	11.30%
(Sufficiency)	0.40%	(1.60%)	1.10%	(0.13%)
B. Value of Accrued Benefits	\$ 87.1	\$ 93.5	\$ 85.4	\$ 87.1
C. Depth of Funding	111.3%	103.6%	113.5%	111.3%



**STATE PATROL ACTIVE MEMBERS  
TOTAL PAYROLL AND AVERAGE SALARY**



Members

769

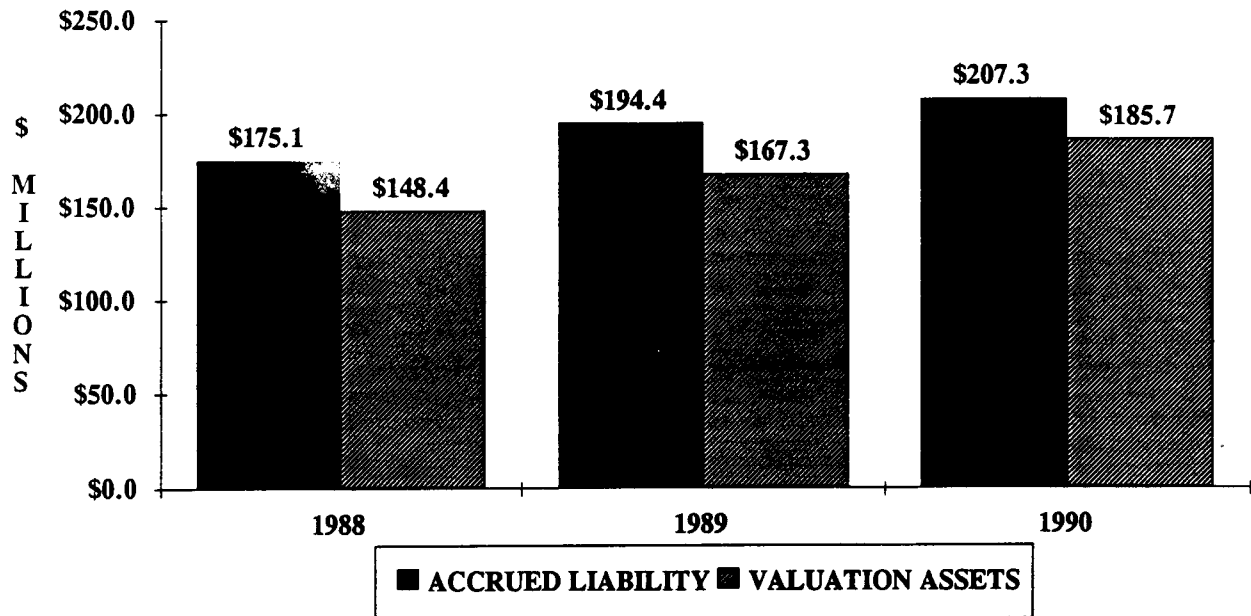
771

740

765

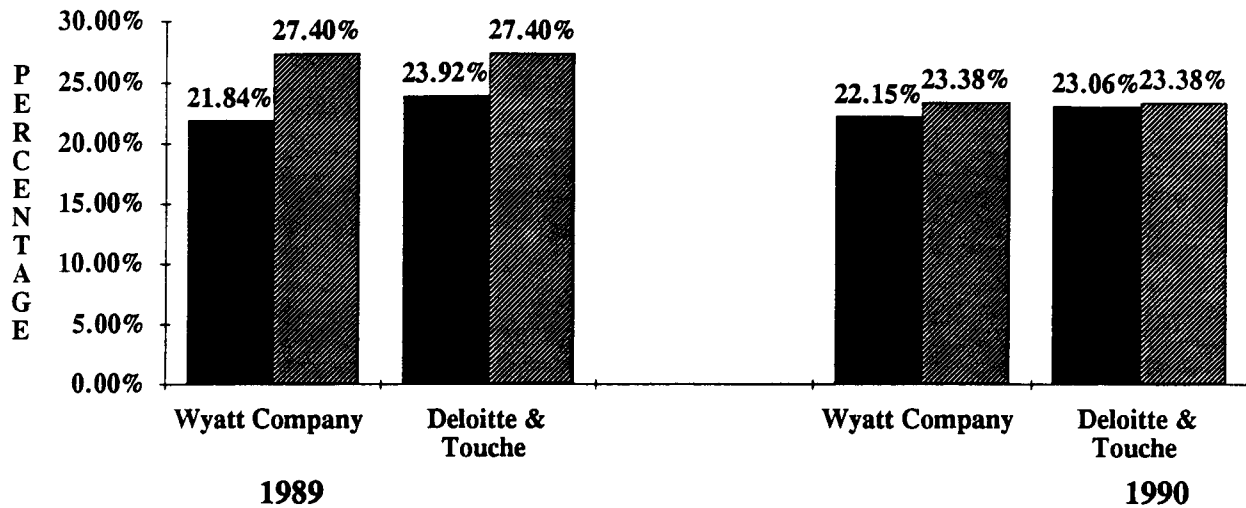
788

**STATE PATROL PLAN  
TABLE A**



	1988	1989	1990
Accrued Liability	\$175.1	\$194.4	\$207.3
Valuation Assets	148.4	167.3	185.7
Unfunded Accrued Liability	26.7	27.1	21.6
Funded Ratio	84.7%	86.0%	89.6%

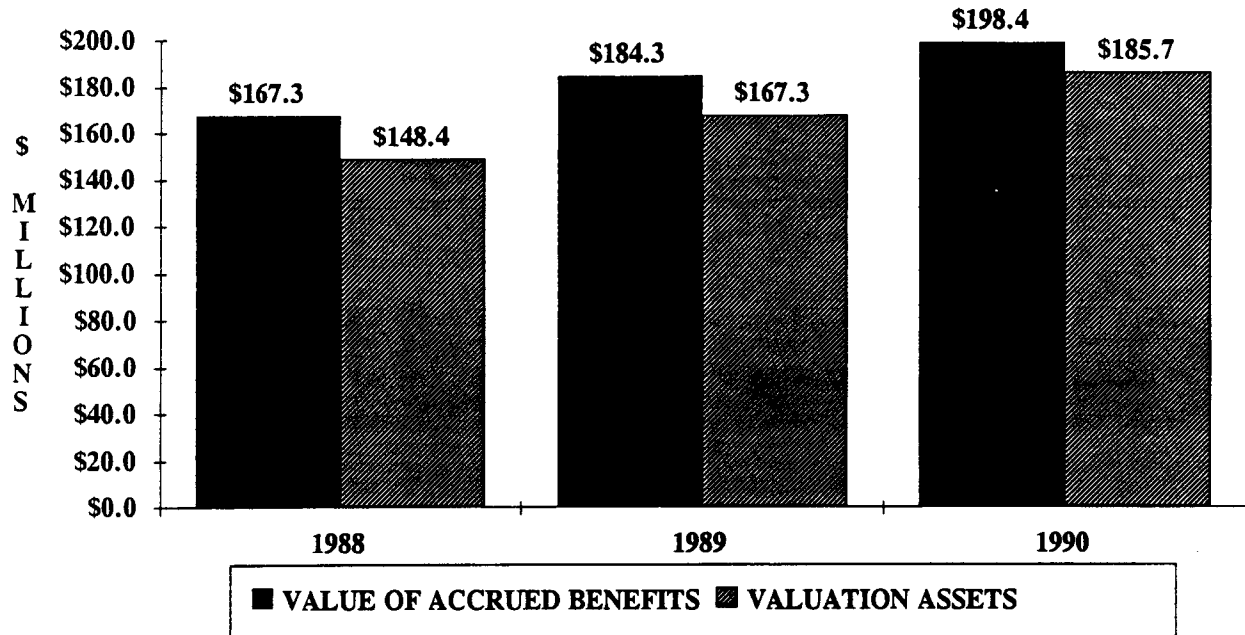
**STATE PATROL PLAN  
TABLE B**



■ **REQUIRED CONTRIBUTION** (as a percent of payroll)     
 ■ **PRESCRIBED CONTRIBUTION** (as a percent of payroll)

	1989		1990	
	<u>Wyatt Company</u>	<u>Deloitte &amp; Touche</u>	<u>Wyatt Company</u>	<u>Deloitte &amp; Touche</u>
Required Contribution	\$ 7.1 (21.84%)	\$ 7.8 (23.92%)	\$ 7.6 (22.15%)	\$ 7.9 (23.06%)
Prescribed Contribution	\$ 8.9 (27.40%)	\$ 8.9 (27.40%)	\$ 8.0 (23.38%)	\$ 8.0 (23.38%)
Sufficiency/(Deficiency)	5.56%	3.48%	1.23%	0.32%

**STATE PATROL PLAN  
TABLE C**



	1988	1989	1990
Value of Accrued Benefits	\$167.3	\$184.3	\$198.4
Valuation Assets	148.4	167.3	185.7
Depth of Funding	88.7%	90.8%	93.6%
Depth of Funding, Excluding MPRI Members	79.9%	83.8%	88.8%

# STATE PATROL PLAN

## TABLE D

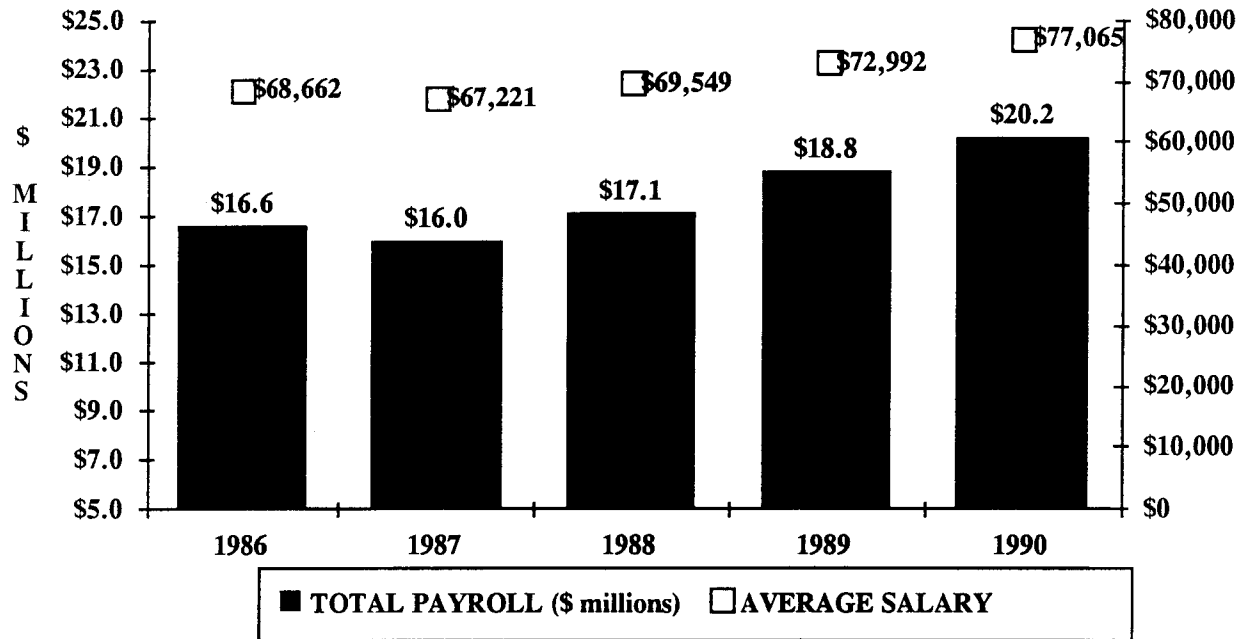
(\$ IN MILLIONS)

### SENSITIVITY TO ASSUMPTIONS

		<u>Value After Change</u>		
	<u>Current</u>	<u>7.5% Interest</u>	<u>6% Salary Increase</u>	<u>Level \$ Amortization</u>
A. Required Contribution				
(Amount)	\$ 7.9	\$ 9.2	\$ 7.5	\$ 9.0
(Percent)	23.06%	26.64%	21.84%	26.16%
(Sufficiency)	0.32%	(3.26%)	1.54%	(2.78%)
B. Value of Accrued Benefits	\$ 198.8	\$ 209.8	\$ 195.4	\$ 198.8
C. Depth of Funding	93.4%	88.5%	95.1%	93.4%



# JUDGES ACTIVE MEMBERS TOTAL PAYROLL AND AVERAGE SALARY



Members	242	238	246	257	262
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**JUDGES' PLAN**  
**COMPARISON OF VALUATION RESULTS**  
**(\$ IN MILLIONS)**

	<u>1989</u>		<u>1990</u>	
	<u>Wyatt Company</u>	<u>Deloitte &amp; Touche</u>	<u>Wyatt Company</u>	<u>Deloitte &amp; Touche</u>
A. Accrued Liability	\$ 64.9	\$ 65.9	\$ 69.4	\$ 69.3
B. Valuation Assets	\$ 23.4	\$ 23.4	\$ 28.1	\$ 28.1
C. Unfunded Accrued Liability	\$ 41.5	\$ 42.5	\$ 41.3	\$ 41.2
D. Funded Ratio	36.0%	35.4%	40.5%	40.6%
E. Required Contribution	\$ 4.6 (24.30%)	\$ 4.8 (25.36%)	\$ 4.9 (23.59%)	\$ 4.9 (24.10%)
F. Prescribed Contribution	\$ .8 (4.30%)	\$ .8 (4.30%)	\$ .9 (4.31%)	\$ .9 (4.31%)
G. Contribution Sufficiency/ (Deficiency)	(25.49%)	(21.06%)	(22.56%)	(19.79%)