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Public Employees Retirement Assn.

Public Employees Retirement Association

ACTUARIAL VALUATION REPORT
(Based on a June 30, 1975 Census)

Compensation & Capital Incorporated

 **FILE COPY**

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COMPENSATION & CAPITAL INCORPORATED
464 Central Avenue
Northfield, Illinois 60093

November 10, 1975

Board of Trustees
Public Employees Retirement Association
203 Capitol Square Building
550 Cedar Street
St. Paul, Minnesota 55101

Gentlemen:

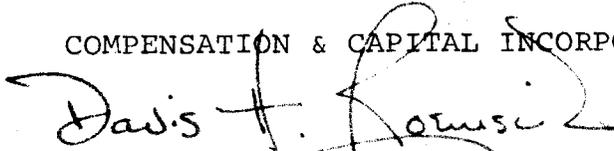
In accordance with your request, we have made an actuarial valuation of the Public Employees Retirement Association of the State of Minnesota for the year ended June 30, 1975, in order to determine the adequacy of the contributions being made to that system and to prepare the financial and actuarial reports as required by the laws of the State of Minnesota.

The results of our analysis are set forth in the following report. The basic financial and employee data are those submitted to us by the Association office; the summaries and actuarial figures are those prepared by us from such data.

On the basis of the foregoing, and the assumptions indicated herein, we hereby certify that, to the best of our knowledge and belief, the attached statements are true and correct. A copy of this report will supply the data required by the legislative commission for the year ended June 30, 1975.

Respectfully submitted,

COMPENSATION & CAPITAL INCORPORATED



Davis H. Roensch
Fellow, Society of Actuaries

DHR:tmk

Public Employees Retirement Association

SUMMARY OF ACTUARIAL REQUIREMENTS
(July 1, 1975)

General Fund <u>Exhibit 8</u> <u>Page 19</u>	Police and Fire Fund <u>Exhibit 21</u> <u>Page 36</u>
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AMORTIZATION RATE REQUIREMENTS

Present Value of Benefit (For Both Past and Future Service) Obligation for Service Rendered to Date	\$1,111,604,015	\$114,743,613
Net Assets	725,173,867	67,641,232
Accrued Unfunded Obligation	449,178,269	56,100,213
	275,995,598	11,541,019
Funding Ratio	62%	83%
Amortization (22-Year) Requirement Covered Payroll	\$ 20,967,662 582,912,058	\$ 876,777 40,849,878
Amortization (22-Year) Rate Requirement	<u>3.597%</u>	<u>2.146%</u>

ENTRY AGE NORMAL RATE REQUIREMENT

Value of Benefits to be Earned in the Future	\$ 386,430,148	\$ 77,102,381
Present Value of Future Payroll	4,130,124,600	502,113,000
Normal Cost Rate Requirement	9.356%	15.356%
Employee Contribution Rate	5.291*	8.000
Employer Normal Cost Rate Requirement	<u>4.065%</u>	<u>7.356%</u>

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law	7.114%*	12.000%
Amortization (22-Year) Rate Requirement	3.597%	2.146%
Normal Cost Rate Requirement	4.065	7.356
Allowance for Expenses	<u>0.142</u>	<u>0.095</u>
Total Requirement	<u>7.804%</u>	<u>9.597%</u>
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement	<u>(0.690%)</u>	<u>2.403%</u>

* Weighted by Covered Payroll 32.28% Basic and
67.72% Coordinated.

Public Employees Retirement Association

Value of Benefits Earned to June 30, 1975

	<u>General Fund</u>	
	<u>Without 5% per</u>	<u>With 5% per</u>
	<u>year increase*</u>	<u>year increase*</u>
Benefits Payable to Retired Members and their beneficiaries	\$178,430,606	\$178,430,606
Deferred Vested Benefits Payable to Inactive Members	2,306,247	2,306,247
Active Members:		
a. Eligible for Normal Retirement	35,854,019	35,954,019
b. Eligible for Early Retirement	72,517,083	72,517,083
c. Eligible for Deferred Benefits	219,006,684	397,890,746
d. Under 10 years service (Refund of Contributions only)	48,759,107	48,759,107
<u>Total</u>	<u>\$556,873,746</u>	<u>\$735,757,808</u>

	<u>Police and Fire Fund</u>	
Benefits Payable to Retired Members and their beneficiaries	\$ 13,099,692	\$ 13,099,692
Deferred Vested Benefits Payable to Inactive Members	546,300	546,300
Active Members:		
a. Eligible for Normal Retirement	13,465,640	13,465,640
b. Eligible for Early Retirement	-	-
c. Eligible for Deferred Benefits	26,309,698	33,701,869
d. Under 10 years service	6,874,326	6,874,326
<u>Total</u>	<u>\$ 60,295,656</u>	<u>\$ 67,687,827</u>

* Applies only to present active with 10 or more years of service. The value for Deferred Vested Benefits of inactive members includes 5% per year increases to Normal Retirement Date plus refund of contributions to inactive members with less than 10 years of service.

PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONGeneral FundAccounting Balance Sheet

June 30, 1975

ASSETS

Cash:			
On Hand	\$	50.00	
On Deposit		<u>238,554.85</u>	\$ 238,604.85
Accounts Receivable:			
Employer contributions		137,650.69	
Purchase of prior service credit		13,073.19	
From Minnesota State Retirement System			
and Teachers Retirement Association		25,646.68	
From Police and Fire Fund		43,913.91	
Minnesota General Revenue Fund			
(supplemental payments)		7,782.34	
Accrued interest on bonds		2,657,081.97	
Accrued dividends		507,868.95	
Interest on late employer contributions			
and delinquent payrolls		14,627.50	
Other		<u>1,417.34</u>	<u>3,409,062.57</u>
Total Current Assets			\$ 3,647,667.42
Investments:			
Bonds - at amortized cost -			
U.S. Government	\$	22,913,058.75	
Municipal		2,614,000.00	
Corporate		110,024,692.48	
Canadian Government Insured		26,386,979.69	
Stock - Common - at cost		<u>152,798,436.42</u>	314,737,167.34
Minnesota Adjustable Fixed Benefit Fund			129,877,141.05
Deferred yield adjustment			<u>3,134,091.27</u>
Miscellaneous:			
Office equipment - less accumulated			
depreciation	\$	30,006.67	
Prepaid expense		12,146.88	
Prepaid interest		<u>146,218.33</u>	<u>188,371.88</u>
Total Assets			<u>\$451,584,438.96</u>
Members Accumulated Contributions			<u>\$140,812,318.39</u>

PUBLIC EMPLOYEES RETIREMENT ASSOCIATION

Accounting Balance Sheet (Continued)

CURRENT LIABILITIES AND RESERVES

Liabilities:

Accounts payable		\$ 10,643.29
Annuities, survivors and disability benefits payable on July 1, 1975		1,883,821.43
Accounts payable to the Police and Fire Fund		31,979.41
Penalties refundable		2,679.59
Donations suspense		476,930.25
Members contributions suspense - 1969 vote, 1.8% shortage		116.37

Total Liabilities \$ 2,406,170.34

Reserves:

Members accumulated contributions	\$ 140,812,318.39	
Benefits reserve	178,488.809.18	
Reserve for participation in Minnesota Adjustable Fixed Benefit Fund	129,877,141.05	449,178,268.62

Total Liabilities and Reserves \$451,584,438.96

PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONGeneral FundSOURCES AND USES OF FUNDS

July 1, 1974 - June 30, 1975

<u>Sources</u>		<u>Uses</u>	
<u>Employee Contributions</u>	\$ 28,252,329.64	<u>Refunds</u>	
<u>Employer Contributions</u>	37,973,618.96	Employee	5,327,001.54
<u>Various Accounts Receivable</u>	23,847.16	Employer	38,650.74
<u>Investment Income</u>	15,074,985.59	<u>Penalties Refunded</u>	320.50
<u>Investment Sales and Redemptions</u>		<u>Donations Refunded</u>	20,875.83
Bonds	419,831,770.39	<u>Benefits Paid</u>	
Stocks	6,413,892.38	Retirement	15,718,695.92
<u>Cancelled Warrants</u>	124,297.27	Survivor	3,252,290.75
<u>Interest Other Than</u>		Disability	785,322.61
<u>Investment Interest</u>	141,847.52	<u>Direct Expense</u>	947,281.53
<u>Miscellaneous Income</u>	6,062.66	<u>Investment Purchases</u>	
<u>Transfers from Police and</u>		Bonds	428,013,836.07
<u>Fire Fund</u>	38,693.70	Stocks	39,608,543.28
<u>Decrease in Cash Account</u>	39,786.39	<u>Payments to Minnesota</u>	
Cash Balance, June 30, 1975	\$507,921,131.66	<u>Adjustable Fixed Benefit</u>	
	238,554.85	<u>Fund</u>	13,902,413.10
	<u>\$508,159,686.51</u>	<u>Transfers to Police and</u>	
		<u>Fire Fund</u>	19,373.56
		<u>Interest Paid on Refunds</u>	286,526.23
			<u>\$507,921,131.66</u>

General FundAccounting Statement of Income and Expense

July 1, 1974 to June 30, 1975

Income:

Employer contributions - 8% and 2½%	\$ 17,810,237.96	
Employer contributions - 4% and 1½%	20,016,676.42	
Additional employer contributions	<u>90,579.79</u>	\$ 37,917,494.17
Member contributions		28,294,174.70
Unit matching contributions		45,812.13
Member contributions transferred from Police and Fire Fund	\$ 4,701.36	
Employer contributions transferred from Police and Fire Fund	<u>557.64</u>	5,259.00
Realized income of the Minnesota Adjustable Fixed Benefit Fund		6,829,183.05
Statutory valuation adjustment in the Minnesota Adjustable Fixed Benefit Fund		(18,007,179.46)
Investment earnings		15,883,494.26
Loss on sale of stocks		(408,690.14)
Interest on back payments and omitted deductions		19,887.05
Interest on refunds repaid		61,510.84
Interest on delinquent employer conti- butions and late payrolls		42,305.37
Adjustments for prior year entries		29,741.59
Other income		<u>4,266.86</u>
Total Income		\$ 70,717,259.42

Expense:

Retirement annuities (all paid from Minnesota Adjustable Fixed Benefit Fund)		\$ 17,144,091.34
Survivor benefits paid -		
Old law survivors	\$ 1,561,266.67	
With children	653,611.15	
Without children	<u>1,126,098.81</u>	3,340,976.63
Disability benefits paid		843,394.65
Disability survivors paid -		
With children	\$ 70,650.32	
Without children	<u>129,098.67</u>	199,748.99
Refund of deposits -		
Active members, due to withdrawal	\$ 4,965,635.28	
Active members, due to death	<u>251,516.00</u>	5,217,151.28
Deferred members, due to withdrawal	\$ 21,225.07	
Deferred members, due to death	<u>4,539.93</u>	25,815.00

PUBLIC EMPLOYEES RETIREMENT ASSOCIATION
 Accounting Statement of Income and Expense - Page 2

EXHIBIT 3
 (continued)

Refund of deposits, continued -			
Annuitants to survivors		\$	51,309.72
survivors to beneficiaries			83.50
Disabilitants to survivors			18,135.28
Donations (\$25.00 and under)			1,125.82
Transfers to Police and Fire Fund -			
Member contributions (active)	\$	21,585.64	
Member contributions (deferred)		2,410.72	
Employer contributions		<u>7,710.05</u>	31,706.41
Interest paid on refunds			285,887.03
Administrative expenses -			
Salaries	\$	568,214.94	
Rent -			
Office space	\$49,830.68		
Parking space	60.00		
Data Processing equipment	<u>59,654.96</u>	109,545.64	
Maintenance service contract		3,048.01	
Maintenance service contract -			
Data Processing		200.00	
Medical expense		17,860.27	
Actuarial services		15,000.00	
Telephone and telegraph		5,874.12	
Postage		52,830.43	
Travel		8,990.62	
Stationery and office supplies		16,532.45	
Stationery and office supplies -			
Data Processing		1,472.25	
Publications and subscriptions		562.31	
Printing		8,642.39	
Mailing services		1,446.90	
Insurance - fire, theft, vandalism and surety bonds		354.53	
Employee insurance and hospitalization		16,956.76	
Employer Social Security taxes		16,962.47	
Depreciation - equipment		5,488.92	
Equipment under \$25.00		1,445.31	
Tabulating and job processing services		405.26	
Public Employees Retirement Association			
- Employer contributions - 1974-75		43,915.97	
Xerox machine		3,590.47	
Workmen's Compensation payments		377.85	
Minnesota State Retirement System -			
Assistant Attorney General		623.36	
Temporary help		2,254.00	
Miscellaneous expense		<u>3,973.82</u>	
Total Administrative Expenses	\$	<u>906,569.05</u>	
Less percentage (4.26386875%) charged to Police and Fire Fund		<u>38,654.91</u>	<u>867,914.14</u>
			<u>\$ 28,027,339.79</u>
Excess of Income over Expense for the Period Ended June 30, 1975			<u>\$ 42,689,919.63</u>

PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONGeneral FundReconciliation of Asset Balances

June 30, 1975

Asset Balance, July 1, 1974		\$ 406,488,348.99
Add:		
Employer contributions	\$ 37,963,306.30	
Employee contributions	28,294,174.70	
Employee and employer contributions transferred from Police and Fire Fund	5,259.00	
Minnesota Adjustable Fixed Benefit Fund - Realized income	6,829,183.05	
Statutory valuation adjustment of the Minnesota Adjustable Fixed Benefit Fund	(18,007,179.46)	
Investment earnings	15,883,494.26	
Loss on sale of stocks	(408,690.14)	
Interest on back payments, refunds repaid and delinquent employer contributions	123,703.26	
Adjustments for prior year entries	29,741.59	
Other income	4,266.86	
Total Additions		<u>70,717,259.42</u>
		\$ 477,205,608.41
Deduct:		
Benefits paid -		
Retirement	\$ 17,144,091.34	
Survivor	3,540,725.62	
Disability	<u>843,394.65</u>	\$ 21,528,211.61
Refunds	5,313,620.60	
Transfers to Police and Fire Fund	31,706.41	
Interest paid on refunds	285,887.03	
Administrative expenses	<u>867,914.14</u>	
Total Deductions		<u>28,027,339.79</u>
		\$ 449,178,268.62
Current Liabilities and Accounts Payable		<u>2,406,170.34</u>
Asset Balance, June 30, 1975		<u>\$ 451,584,438.96</u>

PUBLIC EMPLOYEES RETIREMENT ASSOCIATION

ASSET ALLOCATION
(July 1, 1975)

	<u>Basic Fund</u>	<u>Coordinated Fund</u>	<u>General Fund Total</u>
Asset Balance July 1, 1974	\$318,796,641.58	\$ 87,691,707.41	\$406,488,348.99
1. Employer Contributions	17,998,159.32	20,088,850.24	38,087,009.56
2. Employee Contributions	13,684,101.80	14,610,072.90	28,294,174.70
3. Transfer to Police & Fire Fund	-26,447.41	-	-26,447.41
4. Benefits Paid			
(i) Survivor	-3,533,330.12	-7,395.50	-3,540,725.62
(ii) Disability	-757,667.98	-85,726.67	-843,394.65
5. Refunds	-1,037,776.54	-4,561,731.09	-5,599,507.63
6. Net (Sum of 1 thru 5)	<u>26,327,039.07</u>	<u>30,044,069.88</u>	<u>56,371,108.95</u>
7. Benefits Paid from MAFBF	-15,471,828.71	-1,672,262.63	-17,144,091.34
8. Income From MAFBF	6,081,357.67	747,825.38	6,829,183.05
9. Investment Income	10,918,818.59	4,589,993.98	15,508,812.57
10. Administrative Expenses	-283,662.73	-584,251.41	-867,914.14
11. Adjustment to MAFBF	-16,035,314.65	-1,971,864.81	-18,007,179.46
12. Net (Sum of 7 thru 11)	<u>-14,790,629.83</u>	<u>1,109,440.51</u>	<u>-13,681,189.32</u>
13. Income for year (6 plus 12)	<u>11,536,409.24</u>	<u>31,153,510.39</u>	<u>42,689,919.63</u>
Asset Balance July 1, 1975	<u>\$330,333,050.82</u>	<u>\$118,845,217.80</u>	<u>\$449,178,268.62</u>
Estimated Allocation MAFBF	<u>\$114,826,006.35</u>	<u>\$ 15,051,134.70</u>	<u>\$129,877,141.05</u>

Public Employees Retirement Association

General Fund

ACTUARIAL ASSUMPTIONS

The assumptions can be summarized as follows:

Interest:	5%
Mortality:	1965 Group Annuity
Retirement Age:	65 for employees who have less than 30 years of service. For employees with 30 or more years of service - 30% at age 62, 15% at ages 63 and 64, and 100% at age 65.
Disability:	PERA Experience
Turnover:	PERA Experience
Salary Scale:	3½% per year

A detailed statement of the mortality rates, disability rates, turnover factors, and salary scale is set out in the following Tables 1 through 4.

Public Employees Retirement AssociationGeneral FundMale EmployeesMORTALITY RATES
(Per 1,000 Employees)

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
20	.517	45	3.002
21	.537	46	3.409
22	.558	47	3.856
23	.581	48	4.344
24	.607	49	4.869
25	.636	50	5.429
26	.667	51	6.027
27	.703	52	6.656
28	.742	53	7.321
29	.784	54	8.019
30	.831	55	8.751
31	.884	56	9.514
32	.941	57	10.312
33	1.005	58	11.154
34	1.074	59	12.057
35	1.152	60	13.043
36	1.237	61	14.143
37	1.331	62	15.390
38	1.435	63	16.828
39	1.550	64	18.504
40	1.677	65	20.475
41	1.838		
42	2.054		
43	2.322		
44	2.639		

Public Employees Retirement AssociationGeneral FundFemale EmployeesMORTALITY RATES
(Per 1,000 Employees)

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
20	.311	45	1.672
21	.330	46	1.819
22	.349	47	1.980
23	.369	48	2.158
24	.392	49	2.355
25	.415	50	2.574
26	.439	51	2.783
27	.466	52	3.016
28	.496	53	3.277
29	.527	54	3.570
30	.561	55	3.898
31	.597	56	4.278
32	.637	57	4.727
33	.681	58	5.253
34	.728	59	5.867
35	.780	60	6.572
36	.836	61	7.369
37	.898	62	8.258
38	.966	63	9.232
39	1.040	64	10.284
40	1.122	65	11.402
41	1.213		
42	1.311		
43	1.420		
44	1.540		

Public Employees Retirement AssociationGeneral FundAll EmployeesDISABILITY RATES
(Per 1,000 Employees)

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
20	.69	45	3.17
21	.73	46	3.41
22	.77	47	3.67
23	.81	48	3.94
24	.86	49	4.25
25	.91	50	4.61
26	.96	51	5.01
27	1.02	52	5.48
28	1.08	53	6.00
29	1.15	54	6.53
30	1.22	55	7.12
31	1.29	56	7.76
32	1.37	57	8.45
33	1.45	58	9.17
34	1.54	59	9.91
35	1.63	60	10.69
36	1.73	61	11.53
37	1.84	62	12.38
38	1.96	63	13.25
39	2.09	64	14.15
40	2.23		
41	2.38		
42	2.55		
43	2.74		
44	2.94		

Public Employees Retirement AssociationGeneral FundMale EmployeesSEPARATION RATES
(Per 1,000 Employees)

<u>Age</u>	<u>Separation</u>	<u>Age</u>	<u>Separation</u>
20	275.0	40	81.8
21	263.8	41	76.2
22	250.5	42	71.5
23	239.0	43	67.0
24	226.5	44	62.2
25	216.0	45	58.0
26	204.5	46	53.9
27	192.5	47	49.7
28	182.0	48	45.0
29	171.5	49	42.0
30	161.0	50	38.5
31	152.8	51	34.5
32	143.5	52	31.0
33	133.0	53	27.0
34	124.5	54	23.0
35	117.0	55	19.5
36	109.2	56	15.0
37	101.0	57	10.0
38	94.0	58	5.0
39	88.0		

Public Employees' Retirement AssociationGeneral FundFemale EmployeesSEPARATION RATES
(Per 1,000 Employees)

<u>Age</u>	<u>Separation</u>	<u>Age</u>	<u>Separation</u>
20	383.2	40	134.0
21	377.7	41	123.0
22	371.2	42	113.0
23	363.1	43	104.5
24	351.6	44	97.2
25	335.6	45	90.0
26	322.6	46	83.0
27	310.3	47	78.7
28	299.7	48	74.5
29	289.1	49	70.4
30	280.5	50	66.3
31	269.4	51	62.8
32	259.0	52	59.5
33	246.3	53	55.5
34	232.5	54	52.2
35	216.0	55	47.8
36	199.0	56	41.0
37	183.0	57	36.2
38	165.0	58	21.0
39	148.5	59	5.0

Public Employees Retirement AssociationGeneral FundAll EmployeesEARNINGS PROGRESSION

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
20	.2127	45	.5026
21	.2201	46	.5202
22	.2278	47	.5384
23	.2358	48	.5572
24	.2440	49	.5767
25	.2526	50	.5969
26	.2614	51	.6178
27	.2706	52	.6394
28	.2800	53	.6618
29	.2898	54	.6849
30	.3000	55	.7089
31	.3105	56	.7337
32	.3213	57	.7594
33	.3326	58	.7860
34	.3442	59	.8135
35	.3563	60	.8420
36	.3687	61	.8714
37	.3817	62	.9019
38	.3950	63	.9335
39	.4088	64	.9662
40	.4231	65	1.0000
41	.4380		
42	.4533		
43	.4692		
44	.4856		

PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONFINANCIAL BALANCE SHEET
(Year Commencing July 1, 1975)GENERAL FUNDRESERVES

Entry Age Normal Reserves

Retirement	\$719,027,538		
Vesting	99,234,368		
Disability	47,007,356		
Survivors	36,421,137		
Refund	<u>29,176,763</u>		
	\$930,867,162		
Less Value of Benefits to be Earned in the Future	386,430,148	\$544,437,014	
Vested Members		2,306,247	
Retired Members			
Retirements Payable from Minnesota Ad- justable Fixed Benefit Fund	\$129,877,141		
Disability	7,260,283		
Survivors	31,988,353		
Reserve for Future Old Law Survivors	11,676,725		
Less Receivable from Minnesota Adjustable Fixed Benefit Fund	<u>-2,371,896</u>	<u>178,430,606</u>	\$725,173,867
Unfunded Obligation			<u>275,995,598</u>
Funded Obligation			<u>\$449,178,269</u>

PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONACTUARIAL REQUIREMENTS
(July 1, 1975)General FundAMORTIZATION RATE REQUIREMENT

Present Value of Benefit (For Both Past and Future Service)		\$1,111,604,015
Obligation for Service Rendered to Date	\$ 725,173,867	
Net Assets	449,178,269	
Accrued Unfunded Obligation	275,995,598	
Funding Ratio		62%
Amortization (22-Year) Requirement	\$ 20,967,662	
Covered Payroll	582,912,058	
Amortization (22-Year) Rate Requirement		<u>3.597%</u>

ENTRY AGE NORMAL RATE REQUIREMENT

Value of Benefits to be Earned in the Future	\$ 386,430,148	
Present Value of Future Payroll	4,130,124,600	
Normal Cost Rate Requirement	9.356%	
Employee Contribution Rate*	<u>5.291</u>	
Employer Normal Cost Rate Requirement		<u>4.065%</u>

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law*		7.114%
Amortization (22-Year) Rate Requirement	3.597%	
Normal Cost Rate Requirement	4.065	
Allowance for Expenses	<u>0.142</u>	
Total Requirement		7.804%
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement		<u>(0.690%)</u>

*Weighted by Covered Payroll 32.28% Basic and 67.72% Coordinated

Public Employees Retirement AssociationACTUARIAL REQUIREMENTS
(July 1, 1975)General FundAMORTIZATION RATE REQUIREMENT

	Period			
	<u>10-Year</u>	<u>20-Year</u>	<u>30-Year</u>	<u>40-Year</u>
Accrued Unfunded Obligation	\$275,995,598	\$275,995,598	\$275,995,598	\$275,995,598
Amortization Requirement Covered Payroll	35,742,810	22,146,715	17,953,790	16,084,471
Amortization Rate Requirement	<u>6.132%</u>	<u>3.799%</u>	<u>3.080%</u>	<u>2.759%</u>

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law*	<u>7.114%</u>	<u>7.114%</u>	<u>7.114%</u>	<u>7.114%</u>
Amortization Rate Requirement	6.132%	3.799%	3.080%	2.759%
Normal Cost Rate Requirement	4.065	4.065	4.065	4.065
Allowance for Expenses	<u>0.142</u>	<u>0.142</u>	<u>0.142</u>	<u>0.142</u>
Total Requirement	<u>10.339%</u>	<u>8.006%</u>	<u>7.287%</u>	<u>6.966%</u>
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement	<u>(3.225%)</u>	<u>(0.892%)</u>	<u>(0.173%)</u>	<u>0.148%</u>

*Weighted by Covered Payroll

Public Employees Retirement AssociationGeneral Fund

STATEMENT OF REVENUE, EXPENDITURES,
CHANGES IN RESERVES AND EXPERIENCE GAIN (LOSS)
 (Year Ending June 30, 1975)

Revenue:

Employer Contributions	\$38,087,009.56	
Member Contributions	28,294,174.70	
Investment Income	15,474.804.12	
Other Income	4,266.86	
Minnesota Adjustable Fixed Benefit Fund Income	(11,177,996.41)	
Adjustment for Prior Year Entries	<u>29,741.59</u>	
Total Revenue		\$70,712,000.42

Expenditure:

Benefits	\$21,528,211.61	
Refund of Contributions	5,599,507.63	
Administrative Expense	867,914.14	
Transfer to Police and Fire Fund	<u>26,447.41</u>	
Total Expenditures		<u>28,022,080.79</u>
Increase in Assets (1975)		<u>\$42,689,919.63</u>

Public Employees Retirement Association
RECONCILIATION OF CHANGE IN ACTUARIAL RESERVES

General Fund

ALLOCATION OF CHANGE IN ACTUARIAL RESERVES

	<u>Increase</u>	<u>Decrease</u>	
Increase in Assets			\$ 42,689,920
Amortization Payment		\$ 6,714,245	
Excess Interest (0.45% x Average Invested Assets)		1,312,241	
Estimated Excess (Deficit) in Rate	\$ 3,585,161		
Contribution Requirement Applied to Larger Payroll		2,801,743	
Other Income		2,371,896	
Increases in Compensation	\$34,752,256		
Deferral of Retirement		<u>27,740,796</u>	
Totals	<u>\$38,337,417</u>	<u>\$40,940,921</u>	
Expected Decrease (Increase) in Unfunded			<u>2,603,504</u>
Net Change in Reserves			\$ 40,086,416
Experience Variation (Gain) Loss			<u>424,715</u>
Total			<u>\$ 40,511,131</u>
1975 Actuarial Reserve			\$725,173,867
1974 Actuarial Reserve			<u>684,662,736</u>
Increase (Decrease)			<u>\$ 40,511,131</u>

PUBLIC EMPLOYEES RETIREMENT ASSOCIATION

RECONCILIATION OF ACTIVE MEMBERS

(June 30, 1975)

General Fund

As of July 1, 1974	76,863
New Entrants	15,747
Reinstated	3,040
Transfer	<u>-</u>
Total	<u>95,648</u>

Separations;

a. With Refund of Contributions	
(i) Death	231
(ii) Withdrawal	13,027
b. With Deferred Annuity	101
c. With Disability Annuity	147
d. With Normal Retirement Annuity	816
e. With Survivor Annuity	177
f. With Disability Survivor Annuity	<u>9</u>
Total	<u>14,508</u>

Active as of July 1, 1975 81,140

RECONCILIATION OF ANNUITANTSGeneral FundNormal Retirement Annuitants

As of July 1, 1974		7,337
Additions During Year		917
Deletions During Year		<u>-380</u>
Total as of July 1, 1975		<u>7,874</u>
Annual Annuity - July 1, 1974	\$	15,616,220
- July 1, 1975	\$	<u>17,349,659</u>

Disability Annuitants

As of July 1, 1974		322
Additions During Year		147
Deletions During Year		<u>-73</u>
Total as of July 1, 1975		<u>396</u>
Annual Annuity - July 1, 1974	\$	580,505
- July 1, 1975	\$	<u>931,775</u>

Survivor Annuitants

(a) Spouse Only as of July 1, 1974		2,428
Optional Survivors as of July 1, 1974		70
Additional Spouse Only During Year		182
Additional Optional Survivors During Year		6
Deletions During Year		<u>-116</u>
Total as of July 1, 1975		<u>2,570</u>
Annual Annuity - July 1, 1974	\$	2,382,604
- July 1, 1975	\$	<u>2,676,422</u>

(b) Survivor with Children

As of July 1, 1974		545
Additions During Year		35
Deletions During Year		<u>-1</u>
Total as of July 1, 1975		<u>579</u>
Annual Annuity - July 1, 1974	\$	609,401
- July 1, 1975	\$	<u>668,910</u>

(c) Children

As of July 1, 1974		619
Additions During Year		102
Deletions During Year		<u>-102</u>
Total as of July 1, 1975		<u>619</u>
Annual Annuity - July 1, 1974	\$	428,612
- July 1, 1975	\$	<u>412,865</u>

Deferred Vested Members

As of July 1, 1974		842
Additions During Year		101
Deletions During Year		<u>-32</u>
Total as of July 1, 1975		<u>911</u>

Public Employees Retirement AssociationExperience Study
June 30, 1975General Fund

Interest Rate - 5% per annum (set by law)
 Earnings Progression - 5% per annum (set by law)
 Mortality - 1965 Group Annuity Mortality Table
 Disability - Mortality - 1944 Railway Employees
 Select Mortality Table
 - Annual Rate per 1000 employees - PERA Experience

Separation per 1000 employees

Age	Actual			Assumed
	Basic	Coordinated	Combined	
		<u>Males</u>		
20 to 25	768.0	370.0	374.0	250.5
25 to 30	96.0	237.0	227.0	192.5
30 to 35	63.0	148.0	128.0	143.5
35 to 40	59.0	136.0	106.0	101.0
40 to 45	52.0	126.0	94.0	71.5
45 to 50	52.0	97.0	78.0	49.7
50 to 55	36.0	77.0	62.0	31.0
		<u>Females</u>		
20 to 25	314.0	278.0	376.0	371.2
25 to 30	216.0	311.0	304.0	310.3
30 to 35	125.0	240.0	229.0	259.0
35 to 40	103.0	186.0	178.0	183.0
40 to 45	83.0	160.0	147.0	113.0
45 to 50	63.0	123.0	108.0	78.7
50 to 55	63.0	140.0	113.0	59.5

Average Age at Entry

Year ended	Basic	Coordinated	Combined
ALL ACTIVE			
June 30, 1975	37.0	35.9	36.2
June 30, 1975	47.5	33.5	33.5
June 30, 1974	49.5	34.1	34.2
June 30, 1973	50.0	33.9	33.9
June 30, 1972	45.5	34.6	34.6
June 30, 1971	38.9	35.3	35.4

Average Age at Retirement

Year ended	Basic	Coordinated	Combined
ALL ANNUITANTS			
June 30, 1975	66.0	65.9	66.0
June 30, 1975	65.1	65.4	65.2
June 30, 1974	65.3	65.4	65.3
June 30, 1973	65.9	67.0	66.2
June 30, 1972	65.8	66.1	65.9
June 30, 1971			66.9

Police and Fire Fund
Accounting Balance Sheet

June 30, 1975

ASSETS

Cash on Deposit		\$	73,773.80
Accounts Receivable:			
Employer contributions	\$	1,912.83	
Purchase of prior service credit		2,471.53	
From General Fund		31,979.41	
From State General Revenue Fund (supplemental payments)		24.24	
Interest on late employer contributions and delinquent payrolls		1,677.58	
Accrued interest on investments		422,652.45	
Accrued dividends		77,509.13	<u>538,227.17</u>
Total Current Assets		\$	612,000.97
Investments:			
Bonds - at amortized cost -			
U.S. Government		2,063,490.36	
Corporate		17,243,398.25	
Canadian Government Insured		3,950,000.00	
Stocks - Common - at cost		<u>22,227,609.50</u>	45,484,498.11
Minnesota Adjustable Fixed Benefit Fund			9,721,933.36
Deferred yield adjustment			439,540.72
Prepaid interest			<u>25,790.97</u>
Total Assets		\$	<u>56,283,764.13</u>

CURRENT LIABILITIES AND RESERVES

Liabilities:			
Accounts payable to Regular Fund		\$	43,913.91
Annuities, survivors and disability benefits payable on July 1, 1975			117,480.96
Accounts payable			3.48
Donations suspense			<u>22,153.17</u>
Total Liabilities		\$	183,551.52
Reserves:			
Members accumulated contributions	\$	13,843,626.46	
Benefits reserve		32,534,652.79	
Reserve for participation in Minnesota Adjustable Fixed Benefit Fund		<u>9,721,933.36</u>	<u>56,100,212.61</u>
Total Liabilities and Reserves		\$	<u>56,283,764.13</u>

PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONPolice and Fire FundSOURCES AND USES OF FUNDS

July 1, 1974 - June 30, 1975

<u>Sources</u>		<u>Uses</u>	
<u>Employee Contributions</u>	\$ 3,170,098.51	<u>Refunds</u>	
<u>Employer Contributions</u>	4,761,093.91	Employee Contributions	\$ 388,675.95
<u>Police and Fire State Aid</u>	615,108.94	Employer Contributions	18,418.41
<u>Investment Income</u>	2,299,455.22	<u>Payments to Minnesota</u>	
<u>Transfers from Regular Fund</u>	19,373.56	<u>Adjustable Fixed Benefit</u>	
<u>Investment Sales and Redemptions</u>		<u>Fund</u>	1,782,614.26
Bonds	105,048,442.54	<u>Annuities Paid</u>	
Stocks	1,408,593.43	Retirement	912,033.88
<u>Cancelled Warrants</u>	9,640.20	Survivor	217,615.61
<u>Interest Other Than Investment</u>		Disability	33,589.84
<u>Interest</u>	9,426.93	<u>Investment Purchases</u>	
<u>Miscellaneous Income</u>	716.45	Bonds	107,077,362.79
		Stocks	6,852,319.72
		<u>Interest Paid on Refunds</u>	12,665.43
		<u>Direct Expense</u>	831.52
		<u>Transfers to Regular Fund</u>	38,693.70
		<u>Increase in Cash Account</u>	7,128.58
	\$117,341,949.69		\$117,341,949.69
Cash Balance, June 30, 1975	73,773.80		
	<u>\$117,415,723.49</u>		

PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONPolice and Fire FundAccounting Statement of Income and Expense

July 1, 1974 to June 30, 1975

Income:

Employer contributions		\$ 4,745,985.61
Member contributions		3,176,814.01
Special income from Police State Aid		615,108.94
Unit matching contributions		3,524.37
Transfers from Regular Fund -		
Member contributions (active)	\$ 13,035.03	
Member contributions (deferred)	10,961.33	
Employer contributions	<u>7,710.05</u>	31,706.41
Realized income of the Minnesota		
Adjustable Fixed Benefit Fund		462,486.17
Statutory valuation adjustment of		
the Minnesota Adjustable Fixed		
Benefit Fund		(1,219,482.83)
Investment earnings		2,439,771.34
Gain on sale of stock		9,186.35
Interest on delinquent contributions		
and omitted deductions		<u>9,216.04</u>
Total Income		\$ 10,274,316.41

Expense:

Retirement annuities paid from the			
Minnesota Adjustable Fixed Benefit			
Fund		\$ 1,001,459.09	
Survivor benefits paid -			
Old law survivors	\$ 37,207.00		
With children	127,641.03		
Without children	<u>72,029.58</u>	236,877.61	
Disability benefits paid		36,229.82	
Disability survivors without			
children paid		1,218.75	
Refunds to active members -			
Due to withdrawal	\$ 365,013.46		
Due to death	<u>13,664.71</u>	378,678.17	
Refunds to deferred members			
due to withdrawal		2,895.20	
Refund of annuitants deposit			
to survivor		2,590.62	
Transfers to Regular Fund -			
Member contributions	\$ 4,701.36		
Employer contributions	<u>557.64</u>	5,259.00	
Adjustment for prior year entries		4,607.68	
Interest paid on refunds		12,482.13	
General administrative expense		<u>38,654.91</u>	1,720,952.98

Excess of Income over Expense for the
Period Ended June 30, 1975

\$ 8,553,363.43

PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONPolice and Fire FundReconciliation of Asset Balances

June 30, 1975

Asset Balance, July 1, 1974		\$ 47,546,849.18
Add:		
Employer contributions	\$ 4,749,509.98	
Employee contributions	3,176,814.01	
Special income, Police State Aid	615,108.94	
Employee and employer contributions transferred from Regular Fund	31,706.41	
Realized income from the Minnesota Adjustable Fixed Benefit Fund	462,486.17	
Statutory Valuation Adjustment of the Minnesota Adjustable Fixed Benefit Fund	(1,219,482.83)	
Investment earnings	2,439,771.34	
Gain on sales of stocks	9,186.35	
Interest on delinquent contributions and omitted deductions	9,216.04	
Total Additions		<u>10,274,316.41</u>
		\$ 57,821,165.59
Deduct:		
Benefits paid -		
Retirement	\$1,001,459.09	
Survivor	238,096.36	
Disability	<u>36,229.82</u>	\$ 1,275,785.27
Refunds	384,163.99	
Transfers to Regular Fund	5,259.00	
Adjustments for prior years	4,607.68	
Interest paid on refunds	12,482.13	
General administrative expense	<u>38,654.91</u>	
Total Deductions		<u>1,720,952.98</u>
		\$ 56,100,212.61
Current Liabilities and Accounts Payable		<u>183,551.52</u>
Asset Balance, June 30, 1975		<u>\$ 56,283,764.13</u>

Public Employees Retirement Association

Police and Fire Fund

ACTUARIAL ASSUMPTIONS

The assumptions can be summarized as follows:

Interest:	5%
Mortality	1965 Group Annuity
Retirement Age:	62
Disability:	See Following Table
Turnover:	See Following Table
Salary Scale:	3 $\frac{1}{2}$ % per year

A detailed statement of the mortality rates, disability rates, turnover factors, and salary scale is set out in the following Table 1 through 4.

Public Employees Retirement AssociationPolice and Fire FundAll EmployeesMORTALITY RATES
(Per 1,000 Employees)

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
20	.517	45	3.002
21	.537	46	3.409
22	.558	47	3.856
23	.581	48	4.344
24	.607	49	4.869
25	.636	50	5.429
26	.667	51	6.027
27	.703	52	6.656
28	.742	53	7.321
29	.784	54	8.019
30	.831	55	8.751
31	.884	56	9.514
32	.941	57	10.312
33	1.005	58	11.154
34	1.074	59	12.057
35	1.152	60	13.043
36	1.237	61	14.143
37	1.331	62	15.390
38	1.435		
39	1.550		
40	1.677		
41	1.838		
42	2.054		
43	2.322		
44	2.639		

Public Employees' Retirement Association

Police and Fire Fund

All Employees

DISABILITY RATES

(Per 1,000 Employees)

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
20	1.70	45	10.40
21	1.75	46	11.60
22	1.80	47	12.95
23	1.86	48	14.50
24	1.92	49	16.10
25	1.98	50	17.70
26	2.05	51	19.60
27	2.12	52	21.60
28	2.19	53	23.70
29	2.27	54	25.95
30	2.35	55	28.25
31	2.50	56	30.65
32	2.70	57	33.25
33	2.95	58	36.05
34	3.20	59	38.85
35	3.50	60	41.65
36	3.90	61	44.50
37	4.30		
38	4.75		
39	5.25		
40	5.90		
41	6.60		
42	7.40		
43	8.30		
44	9.25		

Public Employees' Retirement AssociationPolice and Fire FundAll EmployeesSEPARATION RATES(Per 1,000 Employees)

<u>Age</u>	<u>Separation</u>	<u>Age</u>	<u>Separation</u>
20	70.0	40	24.5
21	70.0	41	21.3
22	70.0	42	18.5
23	69.9	43	16.0
24	69.8	44	13.7
25	69.7	45	11.8
26	69.4	46	10.2
27	68.9	47	8.7
28	68.0	48	7.3
29	67.0	49	6.1
30	65.8	50	5.0
31	64.3	51	3.9
32	62.4	52	2.9
33	59.8	53	2.2
34	56.1	54	1.5
35	51.1	55	1.1
36	45.4	56	.7
37	39.5	57	.5
38	33.6	58	.3
39	28.7	59	.1

Public Employees Retirement AssociationPolice and Fire FundAll EmployeesEARNINGS PROGRESSION

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
20	.2358	45	.5572
21	.2440	46	.5767
22	.2526	47	.5969
23	.2614	48	.6178
24	.2704	49	.6394
25	.2800	50	.6618
26	.2898	51	.6849
27	.3000	52	.7089
28	.3015	53	.7337
29	.3213	54	.7594
30	.3326	55	.7860
31	.3442	56	.8135
32	.3563	57	.8420
33	.3687	58	.8714
34	.3817	59	.9019
35	.3950	60	.9335
36	.4088	61	.9662
37	.4231	62	1.0000
38	.4380		
39	.4533		
40	.4692		
41	.4856		
42	.5026		
43	.5202		
44	.5384		

PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONFINANCIAL BALANCE SHEET
(Year Commencing July 1, 1975)Police and Fire FundRESERVES

Entry Age Normal Reserves

Retirement	\$ 80,026,525
Disability	26,658,233
Survivors	10,447,389
Vested	
Retirement	10,605,282
Refund	<u>3,330,192</u>

\$131,097,621

Less Value of Benefits to be
Earned in the Future

77,102,381 \$53,995,240

Vested Members

546,300

Retired Members

Retirements Payable from
Minnesota Adjustable
Fixed Benefit Fund

\$ 9,721,933

Disability 440,613

Survivors 2,633,042

Reserve for Future

Old Law Survivors 516,037

Less Receivable from
Minnesota Adjustable
Fixed Benefit Fund-211,93313,099,692

\$67,641,232

Unfunded Obligation

11,541,019

Funded Obligation

\$56,100,213

PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONACTUARIAL REQUIREMENTS
(July 1, 1975)Police and Fire FundAMORTIZATION RATE REQUIREMENT

Present Value of Benefits (For Both Past and Future Service)		\$144,743,613
Obligation for Service Rendered to Date	\$ 67,641,232	
Net Assets	56,100,213	
Accrued Unfunded Obligation	11,541,019	
Funding Ratio		83%
Amortization (22-Year) Requirement	876,777	
Covered Payroll	40,849,878	
Amortization (22-Year) Rate Requirement		<u>2.146%</u>

ENTRY AGE NORMAL RATE REQUIREMENT

Value of Benefits to be Earned in the Future	\$ 77,102,381	
Present Value of Future Payroll	502,113,000	
Normal Cost Rate Requirement	15.356%	
Employee Contribution Rate	<u>8.000</u>	
Employer Normal Cost Rate Requirement		<u>7.356%</u>

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law		12.000%
Amortization (22-Year) Rate Requirement	2.146%	
Normal Cost Rate Requirement	7.356	
Allowance for Expenses	<u>0.095</u>	
Total Requirement		9.597%
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement		<u>2.403%</u>

Public Employees Retirement AssociationACTUARIAL REQUIREMENTS
(July 1, 1975)Police and Fire FundAMORTIZATION RATE REQUIREMENT

	Period			
	<u>10-Year</u>	<u>20-Year</u>	<u>30-Year</u>	<u>40-Year</u>
Accrued Unfunded Obligation	\$11,541,019	\$11,541,019	\$11,541,019	\$11,541,019
Amortization Requirement	1,494,615	926,081	750,760	672,589
Covered Payroll	40,849,878	40,849,878	40,849,878	40,849,878
Amortization Rate Requirement	<u>3.659%</u>	<u>2.267%</u>	<u>1.838%</u>	<u>1.646%</u>

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law	<u>12.000%</u>	<u>12.000%</u>	<u>12.000%</u>	<u>12.000%</u>
Amortization Rate Requirement	3.659%	2.267%	1.838%	1.646%
Normal Cost Rate Requirement	7.356	7.356	7.356	7.356
Allowance for Expenses	0.095	0.095	0.095	0.095
Total Requirement	<u>11.110%</u>	<u>9.718%</u>	<u>9.289%</u>	<u>9.097%</u>
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement	<u>0.890%</u>	<u>2.282%</u>	<u>2.711%</u>	<u>2.903%</u>

Public Employees Retirement AssociationRECONCILIATION OF CHANGE IN ACTUARIAL RESERVESPolice and Fire FundALLOCATION OF CHANGE IN ACTUARIAL RESERVES

	<u>Increase</u>	<u>Decrease</u>	
Increase in Assets			\$ 8,553,364
Amortization Payment		\$ 289,799	
Excess Interest (0.45% x Average Invested Assets)		187,882	
Estimated Excess in Rate		557,266	
Contribution Requirement Applied to Larger Payroll		528,693	
Other Income		615,109	
Increases in Compensation	<u>\$1,909,392</u>		
Totals	<u>\$1,909,392</u>	<u>\$ 2,178,749</u>	
Expected Decrease (Increase) in Unfunded			<u>269,357</u>
Net Change in Reserves			\$ 8,284,007
Experience Variation (Gain) Loss			<u>(196,151)</u>
Total			<u>\$ 8,087,856</u>
1975 Actuarial Reserve			\$67,641,232
1974 Actuarial Reserve			<u>59,553,376</u>
Increase (Decrease)			<u>\$ 8,087,856</u>

Public Employees Retirement AssociationPolice and Fire fundRECONCILIATION OF ACTIVE MEMBERS

As of July 1, 1974	3,393
New Entrants	575
Reinstated	<u>129</u>
<u>Total</u>	<u>4,097</u>

Separations:

(a) With Refund of Contributions	
(i) Death	13
(ii) Withdrawal	325
(b) With Deferred Annuity	5
(c) With Disability Annuity	4
(d) With Normal Retirement Annuity	52
(e) With Survivor Annuity	<u>8</u>
<u>Total</u>	<u>407</u>
<u>Active as of July 1, 1975</u>	<u>3,690</u>

RECONCILIATION OF ANNUITANTSPolice and Fire FundNormal Retirement Annuitants

As of July 1, 1974	290
Additions During Year	52
Deletions During Year	<u>-11</u>
<u>Total as of July 1, 1975</u>	<u>331</u>
Annual Annuity - July 1, 1974	\$ 906,494
- July 1, 1975	\$ 1,085,872

Disability Annuitants

As of July 1, 1974	9
Additions During Year	4
Deletions During Year	<u>-1</u>
<u>Total as of July 1, 1975</u>	<u>12</u>
Annual Annuity - July 1, 1974	\$ 31,207
- July 1, 1975	\$ 44,564

Survivor Annuitants

(a) Spouse Only as of July 1, 1974	71
Optional Survivors as of July 1, 1974	4
Additional Spouse Only During Year	8
Additional Optional Survivors During Year	-
Deletions During Year	<u>-4</u>
<u>Total as of July 1, 1975</u>	<u>79</u>
Annual Annuity - July 1, 1974	\$ 80,431
- July 1, 1975	\$ 90,606

(b) Survivor with Children

As of July 1, 1974	58
Additions During Year	7
Deletions During Year	<u>-2</u>

Total as of July 1, 1975 63

Annual Annuity - July 1, 1974	\$ 103,337
- July 1, 1975	\$ 98,064

(c) Children

As of July 1, 1974	86
Additions During Year	18
Deletions During Year	<u>-5</u>

Total as of July 1, 1975 99

Annual Annuity - July 1, 1974	\$ 69,619
- July 1, 1975	\$ 67,675

Deferred Annuitants

As of July 1, 1974	17
Additions During Year	5
Deletions During Year	<u>-</u>

Total as of July 1, 1975 22

Public Employees Retirement AssociationExperience Study
June 30, 1975Police and Fire Fund

Interest Rate - 5% per annum (set by law)
 Earnings Progression - 5% per annum (set by law)
 Mortality - 1965 Group Annuity Mortality Table
 Disability - Mortality - 1944 Railway Employees
 Select Mortality Table
 - Annual Rate per 1000 employees - Police and Fire Experience

Separation per 1000 employees

<u>age</u>	<u>actual</u>	<u>assumed</u>
20 to 25	114.0	70.0
25 to 30	92.0	68.9
30 to 35	60.0	62.4
35 to 40	78.0	39.5
40 to 45	48.0	18.5
45 to 50	45.0	8.7
50 to 55	60.0	2.9

Average age at Entry

(a) All actives July 1, 1975	30.7
(b) New Entrants	
July 1, 1971	32.4
July 1, 1972	29.5
July 1, 1973	29.2
July 1, 1974	30.4
July 1, 1975	30.2

Average age at Retirement

(a) All Retirees July 1, 1975	63.0
(b) New Retirees	
July 1, 1979 to June 30, 1971	64.4
July 1, 1971 to June 30, 1972	63.5
July 1, 1972 to June 30, 1973	63.6
July 1, 1973 to June 30, 1974	62.1
July 1, 1974 to June 30, 1975	60.8

Police and Fire Fund

SUPPORTING EXHIBITS

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Public Employees Retirement AssociationPolice and Fire FundRetired Prior to July 1, 1973Payable From Adjustable Fixed Benefit Fund

Age	Male		Female	
	Number	Monthly Annuity	Number	Monthly Annuity
57	1	\$ 250.00	-	\$ -
58	3	381.92	-	-
59	4	1,452.50	-	-
60	7	1,467.01	-	-
61	3	1,262.73	1	128.10
62	7	1,437.69	-	-
63	7	1,324.43	-	-
64	3	590.82	-	-
65	9	2,547.01	-	-
66	10	2,575.59	-	-
67	10	2,594.75	1	360.09
68	17	3,973.86	-	-
69	19	4,707.12	1	211.16
70	15	3,755.85	1	88.21
71	11	2,225.48	1	169.20
72	13	2,838.50	-	-
73	16	3,543.05	-	-
74	13	3,490.11	1	222.27
75	12	2,243.69	-	-
76	11	2,513.53	1	60.47
77	5	1,377.57	1	230.94
78	7	1,411.84	-	-
79	8	1,947.38	-	-
80	4	600.63	-	-
81	4	627.01	-	-
82	3	566.07	-	-
83	1	271.02	-	-
84	1	148.31	-	-
86	1	213.12	-	-
87	1	47.06	-	-
89	1	55.02	-	-
<u>Totals</u>	<u>227</u>	<u>\$ 52,440.67</u>	<u>8</u>	<u>\$ 1,470.44</u>

Public Employees Retirement AssociationPolice and Fire FundRetired Under Law in Force July 1, 1973 and SubsequentPayable From Adjustable Fixed Benefit Fund

Age	Male		Female	
	Number	Monthly Annuity	Number	Monthly Annuity
55	4	\$ 1,837.77	-	\$ -
56	5	2,111.71	-	-
57	3	1,684.45	-	-
58	6	2,111.88	-	-
59	14	4,858.69	-	-
60	5	2,306.17	-	-
61	7	3,575.44	-	-
62	8	3,541.86	-	-
63	6	2,834.02	-	-
64	6	2,095.18	-	-
65	6	1,941.03	1	178.57
66	8	1,547.87	1	567.03
67	9	3,167.22	-	-
68	1	925.64	-	-
70	3	429.05	-	-
71	1	471.87	-	-
73	1	109.97	-	-
78	1	282.84	-	-
<u>Totals</u>	<u>94</u>	<u>\$ 35,832.66</u>	<u>2</u>	<u>\$ 745.60</u>

Survivor Annuitants

Age	Male		Female	
	Number	Monthly Annuity	Number	Monthly Annuity
59	-	\$ -	1	\$ 230.46
70	1	150.00	-	-
79	-	-	1	36.04
<u>Totals</u>	<u>1</u>	<u>\$ 150.00</u>	<u>2</u>	<u>\$ 266.50</u>

Public Employees Retirement AssociationPolice and Fire FundSurvivor Annuities

<u>Female</u>			<u>Female</u>		
<u>Age</u>	<u>Number</u>	<u>Monthly Annuity</u>	<u>Age</u>	<u>Number</u>	<u>Monthly Annuity</u>
24	1	\$ 243.36	61	4	\$ 325.00
28	1	203.66	62	4	325.00
32	2	337.50	63	2	206.25
37	4	325.00	64	3	318.58
40	4	418.75	65	3	257.36
42	4	251.77	66	7	688.57
43	5	472.89	67	5	698.62
44	1	81.25	68	2	162.50
45	1	81.25	69	2	197.60
47	2	364.34	70	4	445.33
48	6	532.45	71	6	724.46
49	6	678.89	72	2	96.79
50	4	836.18	73	1	125.00
51	1	81.25	75	3	303.18
52	4	519.29	76	7	677.94
54	2	304.58	77	2	153.00
55	5	920.76	78	1	125.00
56	4	418.75	79	4	423.99
57	7	633.51	80	2	187.56
58	1	81.25	84	2	123.93
59	5	751.90	85	1	81.25
60	1	25.34	87	1	95.18
			<u>Totals</u>	<u>139</u>	<u>\$ 15,306.01</u>

Children

<u>Number</u>	<u>Monthly Annuity</u>
<u>99</u>	<u>\$5,639.56</u>

Disability

<u>Age</u>	<u>Number</u>	<u>Monthly Annuity</u>
31	1	\$ 237.48
38	1	373.52
43	2	731.36
45	1	263.04
46	1	179.32
48	1	202.88
49	2	747.62
53	1	303.98
54	1	192.58
55	1	481.85
<u>Totals</u>	<u>12</u>	<u>\$ 3,713.63</u>

Public Employees Retirement Association

Police and Fire Fund

CONSIDERED EARNINGS

Active Male Employees

(Age and Service as of July 1, 1975)

Age	YEARS OF SERVICE							
	Under 1		1 to 2		2 to 5		5 to 10	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	158	\$ 1,276,901	89	\$ 769,316	48	\$ 414,461	-	\$ -
25 to 30	154	1,235,226	183	1,771,367	365	4,113,374	123	1,474,143
30 to 35	54	452,590	70	653,531	165	1,764,167	323	4,132,186
35 to 40	42	323,946	32	266,368	100	1,050,987	229	2,988,842
40 to 45	21	150,540	16	141,541	63	560,940	126	1,474,572
45 to 50	18	141,384	15	135,484	36	341,146	80	914,553
50 to 55	12	89,223	5	36,906	17	155,894	59	614,932
55 to 60	2	17,143	4	39,038	16	136,796	41	422,390
60 to 65	3	23,810	3	22,666	4	28,237	28	273,357
65 & up	5	33,304	3	40,830	1	2,450	7	48,896
<u>Total</u>	<u>469</u>	<u>\$ 3,744,067</u>	<u>420</u>	<u>\$ 3,877,047</u>	<u>816</u>	<u>\$ 8,568,452</u>	<u>1016</u>	<u>\$ 12,343,871</u>

Age	YEARS OF SERVICE							
	10 to 15		15 to 20		20 to 25		25 to 30	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	-	\$ -	-	\$ -	-	\$ -	-	\$ -
25 to 30	1	15,229	-	-	-	-	-	-
30 to 35	29	406,270	-	-	-	-	-	-
35 to 40	105	1,429,313	17	233,972	-	-	-	-
40 to 45	91	1,203,859	54	763,874	11	156,820	-	-
45 to 50	58	751,602	67	947,400	41	580,978	4	61,815
50 to 55	64	778,088	51	636,201	38	497,478	13	188,542
55 to 60	37	409,472	30	349,758	32	402,207	18	278,862
60 to 65	28	334,164	20	251,351	16	201,602	8	105,635
65 & up	9	111,483	4	51,053	3	34,469	-	-
<u>Total</u>	<u>422</u>	<u>\$ 5,439,480</u>	<u>243</u>	<u>\$ 3,233,609</u>	<u>141</u>	<u>\$ 1,873,554</u>	<u>43</u>	<u>\$ 634,854</u>

Age	YEARS OF SERVICE							
	30 to 35		35 to 40		40 & Up		All	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	-	\$ -	-	\$ -	-	\$ -	295	\$ 2,460,678
25 to 30	-	-	-	-	-	-	826	8,609,339
30 to 35	-	-	-	-	-	-	641	7,408,744
35 to 40	-	-	-	-	-	-	525	6,293,428
40 to 45	-	-	-	-	-	-	382	4,452,146
45 to 50	-	-	-	-	-	-	319	3,874,362
50 to 55	2	29,678	1	20,821	-	-	263	3,047,763
55 to 60	1	17,549	-	-	2	26,769	183	2,099,984
60 to 65	1	19,843	1	12,532	-	-	112	1,273,197
65 & up	1	10,149	1	29,871	-	-	34	362,505
<u>Total</u>	<u>5</u>	<u>\$ 77,219</u>	<u>3</u>	<u>\$ 63,224</u>	<u>2</u>	<u>\$ 26,769</u>	<u>3580</u>	<u>\$ 39,882,146</u>

Public Employees Retirement Association

Police and Fire Fund

CONSIDERED EARNINGS

Active Female Employees

(Age and Service as of July 1, 1975)

Age	YEARS OF SERVICE							
	Under 1		1 to 2		2 to 5		5 to 10	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	5	\$ 39,274	3	\$ 20,880	-	\$ -	1	\$ 6,826
25 to 30	11	83,457	2	20,708	8	71,430	2	24,726
30 to 35	5	34,382	1	4,574	3	31,536	6	57,137
35 to 40	3	23,006	-	-	6	45,657	-	-
40 to 45	1	3,876	4	27,039	2	19,602	6	65,523
45 to 50	2	10,164	4	27,526	1	7,880	4	52,699
50 to 55	-	-	-	-	2	21,220	6	54,879
55 to 60	-	-	-	-	1	10,251	5	38,946
60 to 65	-	-	-	-	-	-	1	6,700
65 & up	-	-	-	-	-	-	1	5,694
<u>Total</u>	<u>27</u>	<u>\$ 194,159</u>	<u>14</u>	<u>\$ 100,727</u>	<u>23</u>	<u>\$ 207,576</u>	<u>32</u>	<u>\$ 313,130</u>

Age	YEARS OF SERVICE							
	10 to 15		15 to 20		20 to 25		25 to 30	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	-	\$ -	-	\$ -	-	\$ -	-	\$ -
25 to 30	-	-	-	-	-	-	-	-
30 to 35	-	-	-	-	-	-	-	-
35 to 40	-	-	-	-	-	-	-	-
40 to 45	-	-	1	12,048	-	-	-	-
45 to 50	3	30,300	1	12,205	-	-	-	-
50 to 55	2	14,792	1	8,427	-	-	-	-
55 to 60	3	43,857	-	-	-	-	-	-
60 to 65	2	24,029	-	-	1	6,482	-	-
65 & up	-	-	-	-	-	-	-	-
<u>Total</u>	<u>10</u>	<u>\$ 112,978</u>	<u>3</u>	<u>\$ 32,680</u>	<u>1</u>	<u>\$ 6,482</u>	<u>-</u>	<u>\$ -</u>

Age	YEARS OF SERVICE							
	30 to 35		35 to 40		40 & Up		All	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	-	\$ -	-	\$ -	-	\$ -	9	\$ 66,980
25 to 30	-	-	-	-	-	-	23	200,321
30 to 35	-	-	-	-	-	-	15	127,629
35 to 40	-	-	-	-	-	-	9	68,663
40 to 45	-	-	-	-	-	-	14	128,088
45 to 50	-	-	-	-	-	-	15	140,774
50 to 55	-	-	-	-	-	-	11	99,318
55 to 60	-	-	-	-	-	-	9	93,054
60 to 65	-	-	-	-	-	-	4	37,211
65 & up	-	-	-	-	-	-	1	5,694
<u>Total</u>	<u>-</u>	<u>\$ -</u>	<u>-</u>	<u>\$ -</u>	<u>-</u>	<u>\$ -</u>	<u>110</u>	<u>\$ 967,732</u>

PUBLIC EMPLOYEES POLICE AND FIRE FUND

SUMMARY OF PLAN

1. Name

Public Employees Police and Fire Fund.

2. Type of Plan

Self-insured, managed by a 13-member Board of Trustees, ten elected and three appointed by three employer groups.

3. Employer Included

Any county, city, borough, town within the state.

4. Employees Included

All full time, and certain part time, police officers and fire fighters, who are not contributing to any other local retirement plan.

5. Allowable Service

All periods of public service during which salary deductions were made or for which payments in lieu of salary deductions were deposited, including authorized leaves of absence, sick leaves, military leaves and layoffs.

6. Considered Salary

Salary means the periodical total compensation of any public employee before deductions for deferred compensation or supplemental retirement plans, and also means wages and includes net income from fees.

7. Employee Contributions

After July 1, 1973, 8% of considered salary.

8. Employer Contributions

An amount equal to 12% of considered salary.

9. Normal Retirement Annuity

After attainment of age 55 and completion of at least 10 years of allowable service.

"Average salary" means an amount equivalent to the highest salary upon which contributions were paid for any five successive years of allowable service.

Annuity equal to:

- (a) 2 1/2% of "Average Salary" for each of the first 20 years of allowable service, plus
- (b) 2% of "Average Salary" for each year of service over 20 years.

10. Late Retirement Annuity

Annual Annuity determined as for Normal Retirement, considering allowable service and salary to actual retirement.

11. Proportionate annuity

At age 65 or earlier under a mandatory retirement statute or uniformly applied compulsory retirement policy and completion of at least three years but less than 10 years of allowable service.

Annual Annuity determined as for Normal Retirement, considering allowable service and salary to actual retirement.

12. Disability Benefit

In event of disability, which renders member unable to perform the duties of a police officer or fire fighter, after not less than five years of allowable service.

Annual Benefit payable to age 55 determined as for Normal Retirement, considering allowable service and salary to date of disablement, except if service is under 10 years, the benefit shall be the same as though the member had 10 years service.

In the event of disability incurred in line of duty regardless of years of allowable service, the benefit shall be equal to 50% of "Average Salary" plus 2% of such salary for each year of allowable service in excess of 20 years.

If disability continues to age 55, the disability benefit shall terminate and the person shall be deemed to be on retirement status with an annuity in the same amount that he was previously receiving, or he may select an optional annuity.

13. Survivor or Death Benefit

In event of death of an active member, or in event of death of a disabilitant prior to age 55.

Annual Survivor Benefit to dependent spouse, of 30% of average salary during the last six months of allowable service, plus for each dependent child, 10% of such average salary. Maximum family benefit equal to \$450 per month. Minimum family benefit equal to 30% of such average salary, subject to the maximum limitation.

Upon the death of an annuitant who retired under the "savings clause" the surviving spouse, if otherwise eligible, is entitled to a monthly survivor benefit for life or until remarriage, equal to one-half of the original annuity paid plus 25%; maximum \$125 monthly.

In the event of death of a retired annuitant and no survivor benefits are payable, the excess (if any) of his accumulated contributions not paid out in the way of annuities shall be paid to his designated beneficiary, without interest.

In case of death of a member who has no eligible surviving dependents, his accumulated contributions shall be paid to his designated beneficiary with interest thereon at 3 1/2% per annum compounded annually.

14. Separation Benefit

In event of termination after 10 years of allowable service, a deferred vested annuity payable at age 55, provided former member does not withdraw his contributions. (Said 10 years of allowable service need not represent PERA coverage only but may be in conjunction with service covered by other Minnesota funds such as those for state employees and teachers and others which has this same provision; deferred annuity is paid by each fund according to the number of years of allowable service in each fund.)

Annual Annuity determined as for Normal Retirement under the provisions of the Plan at date of termination considering allowable service and salary to date of such termination, augmented by interest at 5%, compounded annually from first of the month following separation from service or from July 1, 1971, whichever is later, to the date annuity begins to accrue.

All former members shall be eligible to receive a refund of their accumulated contributions without interest for the first three years of membership and thereafter with interest at 3 1/2% compounded annually. (Such election is in lieu of any other benefits under the Plan.)

15. Increase for Retired Annuitants, Survivors and Disabilitants who were receiving payments on June 30, 1973

(1) All retired annuitants drawing annuities as of June 30, 1973 shall receive an increase of 25%, payable as follows:

- (a) Those included in the Minnesota Adjustable Fixed Benefit Fund shall have their annuities increased Effective July 1, 1973, by the same ratio as the actuarially computed reserves at 3 1/2% interest bears to the actuarially computed reserves at 5% interest. (This increase amounted to 9.72%.)
- (b) Said annuitants shall receive the remainder of the 25% increase, or 15.28%, effective January 1, 1974.

(2) All survivors and disabilitants who were receiving benefits on June 30, 1973 shall receive an increase of 25% effective January 1, 1974.

16. Optional Annuities

A participant may elect to receive an equivalent actuarially reduced annuity in the form of either a 50% or 100% joint and survivor annuity.

17. Expenses

Paid by Association from retirement fund.

18. Actuarial Method

For purpose of reports to the Legislative Commission on Pensions and Retirement, costs for the Plan shall be determined on an "entry-age Level normal cost" basis and 5% interest.

Public Employees Retirement AssociationFINANCIAL BALANCE SHEET
(Year Commencing July 1, 1975)Basic MembersRESERVES

Entry Age Normal Reserves

Retirement	\$448,189,765
Vested	59,748,487
Disability	31,969,786
Survivors	26,683,276
Refund	<u>3,907,250</u>
	\$610,498,564

Less Value of Benefits to be
Earned in the Future186,331,624 \$424,166,940

Vested Members

1,551,409

Retired Members

Retirements Payable from
Minnesota Adjustable
Fixed Benefit Fund

\$114,826,006

Disability

6,528,752

Survivors

31,977,539

Reserve for Future
Old Law Survivors

11,676,725

Less Receivable from
Minnesota Adjustable
Fixed Benefit Fund-2,289,284162,719,738

\$588,438,087

Unfunded Obligation

258,105,036

Funded Obligation

\$330,333,051

PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONACTUARIAL REQUIREMENTS
(July 1, 1975)Basic MembersAMORTIZATION RATE REQUIREMENT

Present Value of Benefits (For Both Past and Future Service)		\$774,769,711
Obligation for Service		
Rendered to Date	\$ 588,438,087	
Net Assets	330,333,051	
Accrued Unfunded Obligation	258,105,036	
Funding Ratio		56%
Amortization (22-Year) Requirement	\$ 19,608,498	
Covered Payroll	188,184,224	
Amortization (22-Year) Rate Requirement		<u>10.420%</u>

ENTRY AGE NORMAL RATE REQUIREMENT

Value of Benefits to be Earned in the Future	\$ 186,331,624	
Present Value of Future Payroll	1,344,098,000	
Normal Cost Rate Requirement	13.863%	
Employee Contribution Rate	<u>8.000</u>	
Employer Normal Cost Rate Requirement		<u>5.863%</u>

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law		10.500%
Amortization (22-Year) Rate Requirement	10.420%	
Normal Cost Rate Requirement	5.863	
Allowance for Expenses	<u>0.142</u>	
Total Requirement		16.425%
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement		<u>(5.925%)</u>

Public Employees Retirement AssociationACTUARIAL REQUIREMENTS
(July 1, 1975)Basic MembersAMORTIZATION RATE REQUIREMENT

	Period			
	<u>10-Year</u>	<u>20-Year</u>	<u>30-Year</u>	<u>40-Year</u>
Accrued Unfunded Obligation	\$258,105,036	\$258,105,036	\$258,105,036	\$258,105,036
Amortization Requirement	33,425,893	20,711,122	16,789,991	15,041,845
Covered Payroll	188,184,224	188,184,224	188,184,224	188,184,224
Amortization Rate Requirement	<u>17.762%</u>	<u>11.006%</u>	<u>8.922%</u>	<u>7.993%</u>
<u>ACTUARIAL BALANCE</u>				
Employer Contribution Rate Set by Law	<u>10.500%</u>	<u>10.500%</u>	<u>10.500%</u>	<u>10.500%</u>
Amortization Rate Requirement	17.762%	11.006%	8.922%	7.993%
Normal Cost Rate Requirement	5.863	5.863	5.863	5.863
Allowance for Expenses	<u>0.142</u>	<u>0.142</u>	<u>0.142</u>	<u>0.142</u>
Total Requirement	<u>23.767%</u>	<u>17.011%</u>	<u>14.927%</u>	<u>13.998%</u>
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement	<u>(13.267%)</u>	<u>(6.511%)</u>	<u>(4.427%)</u>	<u>(3.498%)</u>

Public Employees Retirement AssociationBasic Members

STATEMENT OF REVENUE, EXPENDITURES,
CHANGES IN RESERVES AND EXPERIENCE GAIN (LOSS)
 (Year Ending June 30, 1975)

Revenue:

Employer Contributions	\$17,998,159.32	
Member Contributions	13,684,101.80	
Investment Income	10,918,818.59	
Minnesota Adjustable Fixed Benefit Fund Income	<u>(9,953,956.98)</u>	
Total Revenue		\$32,647,122.73

Expenditure:

Benefits	\$19,762,826.81	
Refund of Contributions	1,037,776.54	
Administrative Expense	283,662.73	
Transfer to Police and Fire Fund	<u>26,447.41</u>	
Total Expenditures		<u>\$21,110,713.49</u>

Increase in Assets (1975)		<u>\$11,536,409.24</u>
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Public Employees Retirement AssociationRECONCILIATION OF CHANGE IN ACTUARIAL RESERVESBasic MembersALLOCATION OF CHANGE IN ACTUARIAL RESERVES

	<u>Increase</u>	<u>Decrease</u>	
Increase in Assets			\$ 11,536,409
Amortization Payment		\$ 6,373,425	
Excess Interest (0.45% x Average Invested Assets)		923,870	
Estimated Excess (Deficit) in Rate	\$10,961,361		
Other Income		2,289,284	
Increases in Compensation	21,215,888		
Deferral of Retirement		<u>27,740,796</u>	
Totals	<u>\$32,177,249</u>	<u>\$37,327,375</u>	
Expected Decrease (Increase) in Unfunded			<u>5,150,126</u>
Net Change in Reserves			\$ 6,386,283
Experience Variation (Gain) Loss			<u>(798,896)</u>
Total			<u>\$ 5,587,387</u>
1975 Actuarial Reserve			\$588,438,087
1974 Actuarial Reserve			<u>582,850,700</u>
Increase (Decrease)			<u>\$ 5,587,387</u>

Public Employees Retirement Association

RECONCILIATION OF ACTIVE MEMBERS
(June 30, 1975)

Basic Members

As of July 1, 1974	22,484
New Entrants	7
Transfers	<u>2</u>
Total	<u>22,493</u>

Separations:

a. With Refund of Contributions	
(i) Death	103
(ii) Withdrawal	162
b. With Deferred Annuity	74
c. With Disability Annuity	123
d. With Normal Retirement Annuity	608
e. With Survivor Annuity	172
f. With Disability Survivor Annuity	<u>9</u>
Total	<u>1,251</u>
Active as of July 1, 1975	<u><u>21,242</u></u>

Public Employees Retirement AssociationRECONCILIATION OF ANNUITANTSBasic MembersNormal Retirement Annuitants

As of July 1, 1974	6,273
Additions During Year	682
Deletions During Year	-342
<u>Total as of July 1, 1975</u>	<u>6,613</u>
Annual Annuity - July 1, 1974	\$14,179,088
- July 1, 1975	\$15,529,643

Disability Annuitants

As of July 1, 1974	251
Additions During Year	123
Deletions During Year	-59
<u>Total as of July 1, 1975</u>	<u>315</u>
Annual Annuity - July 1, 1974	\$ 516,250
- July 1, 1975	839,357

Survivor Annuitants

(a) Spouse Only as of July 1, 1974	2,422
Optional Survivors as of July 1, 1974	70
Additional Spouse Only During Year	181
Additional Optional Survivors During Year	6
Deletions During Year	-116
<u>Total as of July 1, 1975</u>	<u>2,563</u>
Annual Annuity - July 1, 1974	\$ 2,376,265
- July 1, 1975	\$ 2,668,807

(b) Survivor with Children	
As of July 1, 1974	545
Additions During Year	35
Deletions During Year	-1
<u>Total as of July 1, 1975</u>	<u>579</u>
Annual Annuity - July 1, 1974	\$ 609,401
- July 1, 1975	668,910

(c) Children	
As of July 1, 1974	619
Additions During Year	102
Deletions During Year	-102
<u>Total as of July 1, 1975</u>	<u>619</u>
Annual Annuity - July 1, 1974	\$ 428,612
- July 1, 1975	\$ 412,865

Deferred Vested Members

As of July 1, 1974	782
Additions During Year	74
Deletions During Year	-30
<u>Total as of July 1, 1975</u>	<u>826</u>

Basic Members

SUPPORTING EXHIBITS

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Public Employees Retirement AssociationBasic MembersRetired Prior to July 1, 1973Payable From Adjustable Fixed Benefit Fund

<u>Age</u>	<u>Male</u>		<u>Female</u>	
	<u>Number</u>	<u>Monthly Annuity</u>	<u>Number</u>	<u>Monthly Annuity</u>
60	1	\$ 163.59	--	\$ --
61	2	254.61	4	312.47
62	3	429.18	4	541.38
63	9	1,162.41	9	901.21
64	15	2,565.19	16	2,336.82
65	23	4,194.47	29	4,115.24
66	43	8,374.15	27	3,933.04
67	88	18,471.94	63	9,260.35
68	190	38,825.13	141	19,664.62
69	171	34,333.07	151	20,010.68
70	178	34,381.80	122	17,540.16
71	144	29,067.61	131	19,176.75
72	167	33,476.67	129	17,598.07
73	183	35,365.58	150	21,100.71
74	208	42,335.38	113	16,736.86
75	180	34,363.63	108	16,622.57
76	184	35,058.66	117	17,185.85
77	160	31,125.41	99	16,943.04
78	155	23,175.66	97	15,633.11
79	177	35,749.61	93	14,397.48
80	153	30,104.77	86	12,447.42
81	149	29,830.44	72	11,078.23
82	113	20,903.47	49	6,137.34
83	99	18,283.81	57	7,764.88
84	90	15,731.51	44	6,773.64
85	56	10,752.50	40	5,591.66
86	74	14,722.24	34	5,220.42
87	47	7,985.77	33	4,580.31
88	38	6,057.31	17	2,009.56
89	37	6,114.11	12	2,545.07
90	22	3,456.70	13	1,180.00
91	17	2,934.52	7	1,368.96
92	18	2,329.43	4	639.74
93	7	1,119.18	7	1,043.55
94	5	1,204.36	2	146.74
95	3	289.91	2	213.28
96	3	588.38	--	--
97	2	478.63	--	--
98	1	111.88	--	--
100	1	155.76	1	143.00
101	1	121.90	--	--
102	1	126.20	--	--
<u>Totals</u>	<u>3218</u>	<u>\$616,276.53</u>	<u>2083</u>	<u>\$302,894.21</u>

Public Employees Retirement AssociationBasic MembersRetired Under Law in Force July 1, 1973 and SubsequentPayable From Adjustable Fixed Benefit Fund

<u>Age</u>	<u>Male</u>		<u>Female</u>	
	<u>Number</u>	<u>Monthly Annuity</u>	<u>Number</u>	<u>Monthly Annuity</u>
59	7	\$ 1,894.77	8	\$ 2,511.00
60	4	1,688.34	8	2,720.73
61	11	5,065.91	10	2,853.54
62	10	3,548.66	18	5,667.23
63	41	17,714.17	25	7,784.65
64	50	19,526.07	28	8,756.10
65	107	36,958.53	78	17,670.19
66	196	62,523.40	172	32,949.64
67	143	48,768.88	115	22,182.59
68	46	13,447.16	31	7,077.91
69	27	7,761.97	22	4,506.14
70	23	6,502.24	11	1,394.12
71	11	3,270.63	11	2,439.46
72	19	7,554.98	8	574.35
73	6	1,581.11	5	769.90
74	7	2,987.04	4	669.44
75	4	1,478.93	3	239.82
76	4	696.25	6	832.21
77	6	1,639.76	1	104.20
79	-	--	3	411.11
81	1	24.18	-	--
85	2	361.80		
89	1	96.27		
<u>Totals</u>	<u>726</u>	<u>\$245,071.05</u>	<u>567</u>	<u>\$112,114.33</u>

Public Employees Retirement AssociationBasic MembersSt. Paul Bureau of Health

<u>Age</u>	<u>Male</u>		<u>Female</u>	
	<u>Number</u>	<u>Monthly Annuity</u>	<u>Number</u>	<u>Monthly Annuity</u>
54	--	\$ --	1	\$ 409.52
55	--	--	1	358.95
63	--	--	1	355.20
68	3	1,197.40	2	888.00
72	1	444.00	--	--
73	1	431.42	--	--
74	--	--	1	444.00
75	--	--	1	444.00
77	1	444.00	--	--
79	--	--	1	444.00
83	1	410.70	--	--
84	--	--	1	444.00
91	--	--	1	355.20
93	--	--	1	355.20
96	--	--	1	355.20
<u>Totals</u>	<u>7</u>	<u>\$2,927.52</u>	<u>12</u>	<u>\$4,853.27</u>

Public Employees Retirement AssociationBasic MembersBeneficiaries Payable From Minnesota Adjustable Fixed Benefit Fund

Age	Male		Female	
	Number	Monthly Annuity	Number	Monthly Annuity
39	1	\$ 41.98	-	\$ -
48	1	27.52	-	-
54	-	-	1	100.60
56	1	138.66	-	-
57	-	-	2	414.71
61	-	-	1	267.56
62	-	-	2	352.73
63	-	-	3	422.65
65	-	-	4	778.04
66	-	-	2	215.70
67	-	-	3	789.72
68	-	-	4	711.84
69	-	-	1	47.44
70	-	-	2	387.18
71	-	-	4	1,157.63
72	-	-	6	1,240.14
73	-	-	1	90.10
74	-	-	3	250.19
75	-	-	1	343.59
76	-	-	1	98.74
77	-	-	1	92.74
78	-	-	3	345.05
79	-	-	4	1,020.00
80	-	-	1	62.66
82	1	136.14	-	-
84	-	-	1	139.50
86	-	-	1	56.62
<u>Totals</u>	<u>4</u>	<u>\$ 344.30</u>	<u>52</u>	<u>\$9,385.13</u>

Annuities Payable for a Certain Period Not Dependent on Age

Number	Monthly Annuity
<u>10</u>	<u>\$1,633.21</u>

Public Employees Retirement AssociationBasic MembersDisability Retirements

<u>Age</u>	<u>Male</u>		<u>Female</u>	
	<u>Number</u>	<u>Monthly Annuity</u>	<u>Number</u>	<u>Monthly Annuity</u>
38	1	\$ 273.51	--	\$ --
39	1	127.29	--	--
40	1	190.24	--	--
43	1	166.63	--	--
45	1	394.21	1	222.51
46	--	--	1	80.08
48	4	996.37	1	136.93
49	1	164.94	--	--
50	5	1,367.15	2	226.60
51	7	977.30	1	185.32
52	7	1,571.74	5	677.68
53	7	1,820.82	9	1,192.90
54	2	319.95	4	532.57
55	9	2,202.50	4	490.65
56	12	3,587.46	1	500.36
57	12	3,267.98	2	249.81
58	8	2,069.49	7	1,186.82
59	12	2,423.75	4	440.08
60	23	6,665.91	10	2,084.47
61	31	9,642.41	12	1,155.48
62	24	5,903.24	15	2,531.63
63	24	5,011.33	9	1,278.06
64	23	5,441.27	8	1,844.07
65	2	243.25	1	92.66
<u>Totals</u>	<u>218</u>	<u>\$54,837.74</u>	<u>97</u>	<u>\$15,108.68</u>

Public Employees Retirement AssociationBasic MembersSurvivor AnnuitiesFemale

<u>Age</u>	<u>Number</u>	<u>Monthly Annuity</u>	<u>Age</u>	<u>Number</u>	<u>Monthly Annuity</u>
30	1	\$ 300.00	68	97	\$ 8,209.67
32	1	225.00	69	87	7,892.75
33	1	81.25	70	106	8,624.28
36	1	323.54	71	102	8,573.55
37	2	283.64	72	108	8,956.00
38	2	162.50	73	116	10,725.68
39	3	432.05	74	118	10,064.00
40	1	337.50	75	110	9,325.86
41	4	791.16	76	93	7,952.93
42	4	325.00	77	116	9,414.07
43	10	1,290.70	78	104	8,410.38
44	6	706.25	79	91	8,521.29
45	7	1,031.95	80	99	8,405.26
46	10	812.50	81	88	7,199.21
47	25	2,679.28	82	85	7,044.15
48	16	1,592.47	83	77	6,112.64
49	20	2,544.04	84	73	5,492.95
50	18	2,065.03	85	46	3,251.48
51	26	2,678.30	86	56	3,092.94
52	22	2,106.07	87	54	3,604.42
53	39	4,297.80	88	32	2,336.33
54	36	3,065.61	89	26	1,650.78
55	42	4,244.87	90	21	1,273.67
56	46	4,553.38	91	12	653.20
57	44	4,842.93	92	8	648.99
58	51	4,562.78	93	4	376.68
59	49	5,382.30	94	2	130.97
60	62	5,952.57	95	3	193.08
61	58	5,359.50	96	4	398.02
62	88	7,536.98	97	3	182.50
63	87	7,444.64	98	1	50.00
64	89	7,937.98	101	1	92.93
65	90	7,731.22			
66	83	7,028.75			
67	79	6,363.06			
			<u>TOTALS</u>	<u>3066</u>	<u>\$266,743.26</u>

Public Employees Retirement AssociationBasic MembersSurvivor AnnuitiesMale

<u>Age</u>	<u>Number</u>	<u>Monthly Annuity</u>
57	2	\$ 153.68
61	1	221.14
62	2	418.26
68	1	82.38
70	2	104.82
71	1	91.25
75	1	43.31
76	1	23.19
77	2	142.91
78	1	81.25
79	1	116.09
80	2	91.01
85	1	25.76
88	1	73.58
92	1	11.81
<u>Totals</u>	<u>20</u>	<u>\$ 1,670.44</u>

Children

<u>Number</u>	<u>Monthly Annuity</u>
<u>619</u>	<u>\$34,405.39</u>

Public Employees Retirement Association

Basic Members

CONSIDERED EARNINGS

Active Male Employees

(Age and Service as of July 1, 1975)

YEARS OF SERVICE

Age	Under 1		1 to 2		2 to 5		5 to 10	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	1	\$ 2,042	-	\$ -	-	\$ -	-	\$ -
25 to 30	1	2,951	-	-	6	40,099	80	819,899
30 to 35	1	1,368	1	7,666	6	21,443	335	3,801,573
35 to 40	3	19,392	2	1,854	12	96,920	404	4,301,772
40 to 45	-	-	6	53,341	11	104,075	336	3,486,723
45 to 50	2	1,355	1	7,398	27	178,831	378	3,654,841
50 to 55	1	3,600	6	39,727	17	90,630	362	3,289,452
55 to 60	2	13,248	6	31,774	11	96,312	334	2,910,635
60 to 65	-	-	18	128,272	10	53,250	165	1,441,088
65 & up	-	-	10	74,565	7	18,140	87	462,400
Total	11	\$ 43,956	50	\$ 344,597	107	\$ 699,700	2481	\$ 24,168,383

YEARS OF SERVICE

Age	10 to 15		15 to 20		20 to 25		25 to 30	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	-	\$ -	-	\$ -	-	\$ -	-	\$ -
25 to 30	9	95,721	-	-	-	-	-	-
30 to 35	227	2,570,224	6	72,734	-	-	-	-
35 to 40	500	5,787,101	222	2,573,997	10	116,455	-	-
40 to 45	510	5,978,137	430	5,335,841	138	1,736,853	10	110,866
45 to 50	531	5,672,917	535	6,185,168	408	5,107,508	104	1,352,458
50 to 55	646	6,777,330	579	6,534,427	495	5,962,838	273	3,612,117
55 to 60	563	5,528,135	565	6,012,227	529	5,809,294	309	3,753,514
60 to 65	312	2,936,405	404	4,102,384	329	3,722,618	210	2,600,578
65 & up	81	551,025	73	607,084	71	627,470	38	449,771
Total	3379	\$ 35,896,995	2814	\$ 31,423,862	1980	\$23,083,036	944	\$ 11,879,034

YEARS OF SERVICE

Age	30 to 35		35 to 40		40 & Up		All	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	-	\$ -	-	\$ -	-	\$ -	1	\$ 2,042
25 to 30	-	-	-	-	-	-	96	958,670
30 to 35	-	-	-	-	-	-	576	6,475,008
35 to 40	-	-	-	-	-	-	1153	12,897,491
40 to 45	-	-	-	-	-	-	1441	16,805,836
45 to 50	-	-	-	-	-	-	1986	22,160,476
50 to 55	21	245,556	-	-	-	-	2400	26,555,407
55 to 60	49	681,517	17	233,703	-	-	2385	25,070,359
60 to 65	60	782,486	22	329,548	7	119,251	1537	16,215,880
65 & up	16	193,726	5	97,912	4	63,668	392	3,145,761
Total	146	\$ 1,903,285	44	\$ 661,163	11	\$ 182,919	11967	\$130,286,930

Public Employees Retirement Association

Basic Members

CONSIDERED EARNINGS

Active Female Employees

(Age and Service as of July 1, 1975)

Age	YEARS OF SERVICE							
	Under 1		1 to 2		2 to 5		5 to 10	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	-	\$ -	-	\$ -	2	\$ 98,173	1	\$ 7,848
25 to 30	-	-	-	-	6	36,924	129	834,334
30 to 35	-	-	-	-	6	28,679	169	1,525,626
35 to 40	2	1,302	1	3,046	9	46,118	251	1,420,705
40 to 45	1	4,572	2	10,583	8	44,332	504	2,420,199
45 to 50	-	-	2	3,744	18	76,251	779	4,182,600
50 to 55	2	9,380	5	50,629	7	45,512	868	4,302,044
55 to 60	-	-	7	33,094	26	139,842	697	3,245,584
60 to 65	-	-	1	15,405	4	25,781	317	1,547,059
65 & up	-	-	6	34,651	3	5,060	95	870,087
<u>Total</u>	<u>5</u>	<u>\$ 15,254</u>	<u>24</u>	<u>\$ 151,152</u>	<u>89</u>	<u>\$ 546,672</u>	<u>3810</u>	<u>\$20,356,086</u>

Age	YEARS OF SERVICE							
	10 to 15		15 to 20		20 to 25		25 to 30	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	-	\$ -	-	\$ -	-	\$ -	-	\$ -
25 to 30	24	194,117	-	-	-	-	-	-
30 to 35	138	1,075,383	6	55,346	-	-	-	-
35 to 40	122	984,044	67	513,020	10	84,399	-	-
40 to 45	232	1,569,640	70	578,280	46	381,355	4	25,968
45 to 50	478	2,822,938	153	1,067,263	65	528,637	39	357,806
50 to 55	706	4,123,389	289	2,002,682	113	920,582	37	366,928
55 to 60	749	4,111,323	410	2,678,471	164	1,191,930	60	1,409,259
60 to 65	389	2,319,556	373	2,611,739	159	1,335,355	68	677,639
65 & up	102	427,302	66	342,445	41	290,583	13	121,599
<u>Total</u>	<u>2940</u>	<u>\$17,627,692</u>	<u>1434</u>	<u>\$ 9,849,246</u>	<u>589</u>	<u>\$ 4,732,841</u>	<u>221</u>	<u>\$ 2,959,199</u>

Age	YEARS OF SERVICE							
	30 to 35		35 to 40		40 & Up		All	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	-	\$ -	-	\$ -	-	\$ -	3	\$ 106,021
25 to 30	-	-	-	-	-	-	159	1,065,375
30 to 35	-	-	-	-	-	-	319	2,685,034
35 to 40	-	-	-	-	-	-	462	3,052,634
40 to 45	-	-	-	-	-	-	867	5,034,929
45 to 50	12	126,134	-	-	-	-	1546	9,170,526
50 to 55	19	175,294	1	7,001	-	-	2047	12,003,441
55 to 60	31	265,190	17	179,099	1	11,397	2162	13,260,036
60 to 65	22	239,146	23	289,957	10	147,889	1366	9,209,526
65 & up	11	133,604	3	38,292	4	46,149	344	2,309,772
<u>Total</u>	<u>95</u>	<u>\$ 939,368</u>	<u>44</u>	<u>\$ 514,349</u>	<u>15</u>	<u>\$ 205,435</u>	<u>9275</u>	<u>\$57,897,294</u>

PUBLIC EMPLOYEES RETIREMENT ASSOCIATION

Basic Members

SUMMARY OF PLAN
(Effective July 1, 1975)

1. Name

Public Employees Retirement Association.

2. Type of Plan

Self-insured, managed by a 13-member Board of Trustees, ten elected and three appointed by three employer groups.

3. Employer Included

Any county, city, borough, town, school district within the state, or a department or unit of the state or any other public body employing any person who is a public employee as defined by the law.

4. Employees Included

All full time and certain part time employees who did not elect coverage under Section 218(d) of the Social Security Act and who are not contributing to any other local retirement plan.

5. Allowable Service

All periods of public service during which salary deductions were made or for which payments in lieu of salary deductions were deposited, including authorized leaves of absence, sick leaves, military leaves or layoffs.

6. Considered Salary

Salary means the periodical total compensation of any public employee before deductions for deferred compensation or supplemental retirement plans, and also means wages and includes net income from fees.

7. Employee Contributions

After July 1, 1973, 8% of considered salary.

8. Employer Contributions

Amount equal to the Employee Contributions plus 2 1/2% of considered salary.

9. Normal Retirement Annuity

After attainment of age 65 and completion of at least 10 years of allowable service.

"Average Salary" means an amount equivalent to the highest salary upon which contributions were paid for any five successive years of allowable service.

Annuity equal to:

- (a) 2% of "Average Salary" for each of the first 10 years of allowable service plus
- (b) 2 1/2% of "Average Salary" for each year of service over 10 years.

10. Late Retirement Annuity

Annual Annuity determined as for Normal Retirement, considering allowable service and salary to actual retirement.

11. Early Retirement Annuity

After attainment of age 58 and completion of 20 years of allowable service.

Annual Annuity determined as for Normal Retirement considering allowable service and salary to actual retirement and reduced by 1/2 of 1% for each month between actual retirement and attainment of age 65 if service is less than 30 years, and between actual retirement and age 62 if service is 30 or more years.

12. Special Early Retirement Annuity

After attainment of age 62 and completion of 30 years of allowable service.

Annual Annuity determined as for Normal Retirement considering allowable service and salary to actual retirement without reduction for such early retirement.

13. Proportionate annuity

At age 65 or earlier under a mandatory retirement statute or uniformly applied compulsory retirement policy and completion of at least three years but less than 10 years of allowable service.

Annual annuity determined as for Normal Retirement, considering allowable service and salary to actual retirement.

14. Disability Benefit

In the event of total and permanent disability, after completion of 10 years of allowable service or attainment of age 50 and completion of 5 years of allowable service.

Annual Benefit payable to age 65 determined as for Normal Retirement, considering allowable service and salary to date of disablement, plus a supplement equal to \$5 for each year that age at disablement is less than 65, maximum supplement \$50. Total Benefit is limited to 100% of "Average Salary."

If disability continues to age 65, the disability benefit shall terminate and the person shall be deemed to be on retirement status and may elect to receive the greater of an annuity determined as for Normal Retirement or the disability benefit he was receiving prior to age 65, or he may select an optional annuity.

Any disabilitant attaining age 65 after July 1, 1973 shall have his annuity computed in accordance with the Normal Retirement Annuity formula above.

15. Survivor or Death Benefit

In event of death of an active member after 18 months of allowable service, or in the event of death of a disabilitant prior to age 65.

Annual Survivor Benefit to dependent spouse, of 30% of average salary during the last six months of allowable service, plus for each dependent child, 10% of such average salary. Maximum family benefit equal to \$450 per month. Minimum family benefit equal to 30% of such average Salary, subject to the maximum limitation.

In the event of death of a retired annuitant and no survivor benefits are payable, the excess (if any) of his accumulated contributions not paid out in the way of annuities shall be paid to his designated beneficiary, without interest.

Upon the death of an active member after age 58 and completion of 20 or more years of allowable service or if the member has made application for an annuity or disability benefit and dies prior to commencement of his benefit, the surviving spouse (in lieu of any other survivor benefit) may elect to receive an annuity equal to the 50% joint and survivor annuity the member could have qualified for on the date of his death.

In case of death of a member who has no eligible surviving dependents, his accumulated contributions shall be paid to his designated beneficiary with interest thereon at 3 1/2% per annum compounded annually.

16. Separation Benefit

In event of termination after 10 years of allowable service, a deferred vested annuity payable at age 65, or earlier if otherwise eligible, provided former member does not withdraw his contributions. (Said 10 years of allowable service need

not represent PERA coverage only but may be in conjunction with service covered by other Minnesota funds such as those for state employees and teachers and others which have this same provision; deferred annuity is paid by each fund according to the number of years of allowable service in each fund.)

Annual Annuity determined as for Normal Retirement under the provisions of the Plan at date of termination considering allowable service and salary to date of such termination, augmented by interest at 5% compounded annually from first of the month following separation from service or from July 1, 1971, whichever is later, to the date annuity begins to accrue.

All former members shall be eligible to receive a refund of their accumulated contributions without interest for the first three years of membership and thereafter with interest at 3 1/2% compounded annually. (Such election is in lieu of any other benefits under the Plan.)

17. Increase for retired Annuitants, Survivors and Disabilitants who were receiving payments on June 30, 1973

(1) All retired annuitants drawing annuities as of June 30, 1973 shall receive an increase of 25%, payable as follows:

- (a) Those included in the Minnesota Adjustable Fixed Benefit Fund shall have their annuities increased effective July 1, 1973, by the same ratio as the actuarially computed reserves at 3 1/2% interest bears to the actuarially computed reserves at 5% interest. (This increase amounted to 9.72%.)
- (b) Said annuitants shall receive the remainder of the 25% increase, or 15.28%, effective January 1, 1974.

(2) All survivors and disabilitants who were receiving benefits on June 30, 1973 shall receive an increase of 25% effective January 1, 1974.

18. Optional Annuities

A participant may elect to receive an equivalent actuarially reduced annuity in the form of either a 50% or 100% joint and survivor annuity.

19. Expenses

Paid by Association from retirement fund.

20. Actuarial Method

For purposes of reports to the Legislative Retirement Study Commission, costs for the Plan shall be determined on an "entry-age level normal cost" basis and 5% interest.

Public Employees Retirement AssociationFINANCIAL BALANCE SHEET
(Year Commencing July 1, 1975)Coordinated MembersRESERVES

Entry Age Normal Reserves

Retirement	\$230,837,773		
Vested	39,485,881		
Disability	15,037,570		
Survivors	9,737,861		
Refund	<u>25,269,513</u>		
	\$320,368,598		
Less Value of Benefits to be Earned in the Future	<u>200,098,524</u>	\$120,270,074	
Vested Members		754,838	
Retired Members			
Retirements Payable from Minnesota Adjustable Fixed Benefit Fund	\$ 15,051,135		
Disability	731,531		
Survivors	10,814		
Less Receivable from Minnesota Adjustable Fixed Benefit Fund	<u>-82,612</u>	<u>\$ 15,710,868</u>	\$136,735,780
Unfunded Obligation			<u>17,890,562</u>
Funded Obligation			<u>\$118,845,218</u>

PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONACTUARIAL REQUIREMENTS

(July 1, 1975)

Coordinated MembersAMORTIZATION RATE REQUIREMENT

Present Value of Benefits (For Both Past and Future Service)		\$336,834,304	
Obligation for Service Rendered to Date	\$ 136,735,780		
Net Assets	118,845,218		
Accrued Unfunded Obligation	17,890,562		
Funding Ratio			87%
Amortization (22-Year) Requirement	1,359,164		
Covered Payroll	394,727,834		
Amortization (22-Year) Rate Requirement			<u>0.344%</u>

ENTRY AGE NORMAL RATE REQUIREMENT

Value of Benefits to be Earned in the Future	\$ 200,098,524		
Present Value of Future Payroll	2,786,026,600		
Normal Cost Rate Requirement	7.182%		
Employee Contribution Rate	<u>4.000</u>		
Employer Normal Cost Rate Requirement			<u>3.182%</u>

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law			5.500%
Amortization (22-Year) Rate Requirement	0.344%		
Normal Cost Rate Requirement	3.182		
Allowance for Expenses	<u>0.142</u>		
Total Requirement			3.668%
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement			<u>1,832%</u>

Public Employees Retirement AssociationACTUARIAL REQUIREMENTS
(July 1, 1975)Coordinated MembersAMORTIZATION RATE REQUIREMENT

	Period			
	<u>10-Year</u>	<u>20-Year</u>	<u>30-Year</u>	<u>40-Year</u>
Accrued Unfunded Obligation	\$ 17,890,562	\$ 17,890,562	\$ 17,890,562	\$ 17,890,562
Amortization Requirement	2,316,917	1,435,592	1,163,799	1,042,626
Covered Payroll	394,727,834	394,727,834	394,727,834	394,727,834
Amortization Rate Requirement	<u>0.587%</u>	<u>0.364%</u>	<u>0.295%</u>	<u>0.264%</u>

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law	<u>5.500%</u>	<u>5.500%</u>	<u>5.500%</u>	<u>5.500%</u>
Amortization Rate Requirement	0.587%	0.364%	0.295%	0.264%
Normal Cost Rate Requirement	3.182	3.182	3.182	3.182
Allowance for Expenses	<u>0.142</u>	<u>0.142</u>	<u>0.142</u>	<u>0.142</u>
Total Requirement	<u>3.911%</u>	<u>3.688%</u>	<u>3.619%</u>	<u>3.588%</u>
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement	<u>1.589%</u>	<u>1.812%</u>	<u>1.881%</u>	<u>1.912%</u>

Public Employees Retirement AssociationCoordinated Members

STATEMENT OF REVENUE, EXPENDITURES,
CHANGES IN RESERVES AND EXPERIENCE GAIN (LOSS)
 (Year Ending June 30, 1975)

Revenue:

Employer Contributions	\$20,088,850.24	
Member Contributions	14,610,072.90	
Investment Income	4,589,993.98	
Minnesota Adjustable Fixed Benefit Fund Income	<u>(1,224,039.43)</u>	
Total Revenue		\$38,064,877.69

Expenditure:

Benefits	\$ 1,765,384.80	
Refund of Contributions	4,561,731.09	
Administrative Expense	584,251.41	
Total Expenditures		<u>6,911,367.30</u>

Increase in Assets (1975)		<u>\$31,153,510.39</u>
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Public Employees Retirement Association
RECONCILIATION OF CHANGE IN ACTUARIAL RESERVES

Coordinated Members

ALLOCATION OF CHANGE IN ACTUARIAL RESERVES

	<u>Increase</u>	<u>Decrease</u>	
Increase in Assets			\$ 31,153,511
Amortization Payment		\$ 340,820	
Excess Interest (0.45% x Average Invested Assets)		388,371	
Estimated Excess in Rate (Deficit)		7,376,200	
Contribution Requirement Applied to Larger Payroll		2,801,743	
Other Income		82,612	
Increases in Compensation	\$13,536,368		
Totals	<u>\$13,536,368</u>	<u>\$10,989,746</u>	
Expected Decrease (Increase) in Unfunded			<u>(2,546,622)</u>
Net Change in Reserves			\$ 33,700,133
Experience Variation (Gain) Loss			<u>1,223,611</u>
Total			<u>\$ 34,923,744</u>
1975 Actuarial Reserve			\$136,735,780
1974 Actuarial Reserve			<u>101,812,036</u>
Increase (Decrease)			<u>\$ 34,923,744</u>

Public Employees Retirement AssociationRECONCILIATION OF ACTIVE MEMBERS
(June 30, 1975)Coordinated Members

As of July 1, 1974	54,379
New Entrants	15,740
Reinstated	3,038
Transfer	<u>-2</u>
<u>Total</u>	<u>73,155</u>

Separations:

(a) With Refund of Contributions	
(i) Death	128
(ii) Withdrawal	12,865
(b) With Deferred Annuity	27
(c) With Disability Annuity	24
(d) With Normal Retirement Annuity	208
(e) With Survivor Annuity	<u>5</u>
Total	<u>13,257</u>
Active as of July 1, 1975	<u>59,898</u>

Public Employees Retirement AssociationRECONCILIATION OF ANNUITANTSCoordinated MembersNormal Retirement Annuitants

As of July 1, 1974	1,064
Additions During Year	235
Deletions During Year	<u>-38</u>

<u>Total as of July 1, 1975</u>	<u>1,261</u>
Annual Annuity - July 1, 1974	\$ 1,437,132
- July 1, 1975	\$ <u>1,820,016</u>

Disability Annuitants

As of July 1, 1974	71
Additions During Year	24
Deletions During Year	<u>-14</u>

<u>Total as of July 1, 1975</u>	<u>81</u>
Annual Annuity - July 1, 1974	\$ 64,255
- July 1, 1975	\$ <u>92,418</u>

Survivor Annuitants

<u>Spouse Only</u>	
As of July 1, 1974	6
Additions During Year	1
Deletions During Year	<u>-</u>

<u>Total as of July 1, 1975</u>	<u>7</u>
Annual Annuity - July 1, 1974	\$ 6,399
- July 1, 1975	\$ <u>7,615</u>

Deferred Vested Members

As of July 1, 1974	60
Additions During Year	27
Deletions During Year	<u>-2</u>

<u>Total as of July 1, 1975</u>	<u>85</u>
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Coordinated Members

SUPPORTING EXHIBITS

Exhibit 57	Retired Prior to July 1, 1973	77
Exhibit 58	Retired Under Law in Force July 1, 1973 and Subsequent	78
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Compensation & Capital Incorporated

Public Employees Retirement AssociationCoordinated MembersRetired Prior to July 1, 1973

Age	Male		Female	
	Number	Monthly Annuity	Number	Monthly Annuity
60	-	\$ -	-	\$ -
61	-	-	-	-
62	1	32.29	-	-
63	-	-	-	-
64	-	-	1	172.53
65	4	288.11	2	169.86
66	4	469.27	5	739.68
67	32	2,657.86	15	1,708.67
68	79	7,557.23	34	3,536.46
69	80	8,209.99	30	2,861.11
70	91	9,000.31	32	2,921.04
71	74	6,593.61	27	2,277.44
72	76	7,349.96	28	3,340.15
73	38	3,276.48	23	1,534.59
74	28	2,123.05	10	961.84
75	24	2,631.66	11	1,742.88
76	14	1,499.91	12	1,689.61
77	9	904.69	5	252.56
78	8	1,248.95	3	445.74
79	8	605.38	3	166.65
80	3	855.53	3	489.67
81	4	480.03	-	-
82	2	254.40	2	402.50
83	4	254.36	1	261.04
84	3	375.31	2	232.59
85	2	280.16	1	183.84
86	-	-	-	-
87	-	-	1	90.97
88	-	-	-	-
89	1	48.00	-	-
<u>Totals</u>	<u>589</u>	<u>\$ 56,996.54</u>	<u>251</u>	<u>\$ 26,181.42</u>

Public Employees Retirement AssociationCoordinated MembersRetired Under Law in Force July 1, 1973 and Subsequent

<u>Age</u>	<u>Male</u>		<u>Female</u>	
	<u>Number</u>	<u>Monthly Annuity</u>	<u>Number</u>	<u>Monthly Annuity</u>
60	2	\$ 462.37	-	\$ -
61	-	-	-	-
62	2	931.33	-	-
63	4	666.47	3	698.00
64	9	2,757.54	5	1,783.03
65	43	7,059.58	15	1,059.92
66	109	17,554.67	32	4,807.06
67	75	11,954.08	28	4,996.23
68	22	3,487.34	12	926.98
69	13	2,447.33	6	333.40
70	12	2,290.82	2	69.03
71	7	703.73	2	115.01
72	4	560.28	2	94.74
73	3	411.57	-	-
74	-	-	1	265.19
75	1	78.80	1	78.69
76	-	-	1	164.16
77	1	464.60	-	-
78	2	1,084.09	-	-
79	1	109.74	-	-
82	1	74.23	-	-
<u>TOTALS</u>	<u>311</u>	<u>\$ 53,098.57</u>	<u>110</u>	<u>\$15,391.44</u>

Survivor AnnuitiesFemales

<u>Age</u>	<u>Number</u>	<u>Monthly Annuity</u>
51	1	\$ 59.38
61	1	106.34
68	1	87.21
69	1	56.82
70	1	37.41
75	1	156.19
83	1	131.20
<u>Totals</u>	<u>7</u>	<u>\$634.55</u>

Annuities Payable for a Certain Period Not Dependant on Age

<u>Number</u>	<u>Monthly Annuity</u>
<u>5</u>	<u>\$327.80</u>

EXHIBIT 59

Public Employees Retirement AssociationCoordinated MembersDisability Retirements

<u>Age</u>	<u>Male</u>		<u>Female</u>	
	<u>Number</u>	<u>Monthly Annuity</u>	<u>Number</u>	<u>Monthly Annuity</u>
43	2	\$ 180.61	-	\$ -
47	1	262.29	-	-
48	1	88.19	-	-
49	1	145.14	-	-
50	1	212.39	-	-
51	1	41.94	1	35.69
52	2	212.83	-	-
53	2	272.68	-	-
54	2	141.32	1	6.35
55	-	-	1	65.89
56	4	442.78	2	120.58
57	1	110.38	1	123.88
58	7	471.10	1	23.99
59	2	228.04	-	-
60	4	563.06	1	14.42
61	5	623.70	1	89.61
62	8	495.90	3	142.26
63	9	1,032.85	3	340.48
64	9	946.61	2	95.75
65	1	142.65	1	28.11
<u>Totals</u>	<u>63</u>	<u>\$ 6,614.46</u>	<u>18</u>	<u>\$ 1,087.01</u>

Public Employees Retirement Association

Coordinated Members

CONSIDERED EARNINGS

Active Male Employees

(Age and Service as of July 1, 1975)

Age	YEARS OF SERVICE							
	Under 1		1 to 2		2 to 5		5 to 10	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	1448	\$ 8,601,694	618	\$ 4,136,210	460	\$ 3,584,510	21	\$ 182,144
25 to 30	1199	8,824,007	845	6,877,922	1492	14,290,800	504	5,440,452
30 to 35	535	4,589,580	428	3,722,238	956	9,834,731	811	10,367,691
35 to 40	395	3,082,020	289	2,475,490	662	6,565,331	646	7,497,894
40 to 45	299	2,257,929	218	1,607,295	634	6,507,619	602	6,659,808
45 to 50	267	1,984,080	257	2,003,948	698	6,323,524	647	6,707,511
50 to 55	290	2,086,624	241	1,804,787	641	5,480,946	722	7,357,279
55 to 60	231	1,537,266	202	1,400,192	569	4,286,079	710	7,013,277
60 to 65	128	741,161	115	678,507	346	2,580,920	536	4,982,415
65 & up	46	168,915	70	261,609	176	746,338	190	1,256,126
<u>Total</u>	<u>4838</u>	<u>\$33,873,276</u>	<u>3283</u>	<u>\$24,868,198</u>	<u>6634</u>	<u>\$60,200,798</u>	<u>5389</u>	<u>\$ 57,464,597</u>

Age	YEARS OF SERVICE							
	10 to 15		15 to 20		20 to 25		25 to 30	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	-	\$ -	-	\$ -	-	\$ -	-	\$ -
25 to 30	4	30,306	-	-	-	-	-	-
30 to 35	49	589,634	-	-	-	-	-	-
35 to 40	127	1,921,734	26	154,229	2	27,267	-	-
40 to 45	127	2,096,784	86	1,341,949	13	619,779	-	-
45 to 50	148	1,977,865	96	1,585,995	64	1,047,431	13	193,453
50 to 55	189	2,233,401	128	1,726,089	77	1,159,891	33	475,282
55 to 60	202	2,166,612	133	1,697,029	87	985,501	29	393,054
60 to 65	234	2,527,556	174	2,736,210	92	1,130,085	37	493,389
65 & up	56	447,782	44	495,475	32	379,780	8	90,651
<u>Total</u>	<u>1136</u>	<u>\$13,991,683</u>	<u>687</u>	<u>\$10,096,976</u>	<u>367</u>	<u>\$ 5,349,734</u>	<u>120</u>	<u>\$ 1,645,829</u>

Age	YEARS OF SERVICE							
	30 to 35		35 to 40		40 & Up		All	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	-	\$ -	-	\$ -	-	\$ -	2547	\$ 16,404,558
25 to 30	-	-	-	-	-	-	4044	35,463,487
30 to 35	-	-	-	-	-	-	2779	29,103,883
35 to 40	-	-	-	-	-	-	2147	22,083,965
40 to 45	-	-	-	-	-	-	1979	21,091,163
45 to 50	-	-	-	-	-	-	2190	21,823,807
50 to 55	3	46,922	-	-	-	-	2324	22,371,221
55 to 60	6	96,151	1	8,870	-	-	2170	19,584,031
60 to 65	10	150,353	6	99,066	3	36,608	1681	16,156,270
65 & up	3	25,714	1	7,794	-	-	626	3,880,184
<u>Total</u>	<u>22</u>	<u>319,140</u>	<u>8</u>	<u>115,730</u>	<u>3</u>	<u>36,608</u>	<u>22487</u>	<u>\$207,962,569</u>

Public Employees Retirement Association

Coordinated Members

CONSIDERED EARNINGS

Active Female Employees
(Age and Service as of July 1, 1975)

Age	YEARS OF SERVICE							
	Under 1		1 to 2		2 to 5		5 to 10	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	2761	\$13,145,996	1612	\$ 8,438,070	1417	\$ 8,268,796	137	\$ 901,123
25 to 30	1487	7,911,235	1119	6,763,868	1820	13,151,033	786	6,445,000
30 to 35	1105	4,688,271	808	3,473,114	1323	7,676,194	716	5,709,297
35 to 40	1019	3,825,696	996	3,471,557	1840	7,693,564	819	4,678,653
40 to 45	793	3,061,266	822	2,951,882	1948	7,666,352	1102	6,050,141
45 to 50	603	2,467,677	651	2,437,562	1755	6,964,925	1182	6,365,742
50 to 55	455	1,805,479	487	1,824,299	1369	5,739,426	1216	6,705,059
55 to 60	281	1,054,294	317	1,057,102	966	3,759,213	950	4,897,762
60 to 65	107	383,993	142	444,430	509	2,102,763	627	3,307,812
65 & up	32	69,408	67	217,581	198	589,562	183	717,218
<u>Total</u>	<u>8643</u>	<u>\$38,393,275</u>	<u>7021</u>	<u>\$31,079,465</u>	<u>13145</u>	<u>\$63,611,828</u>	<u>7718</u>	<u>\$ 45,777,807</u>

Age	YEARS OF SERVICE							
	10 to 15		15 to 20		20 to 25		25 to 30	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	-	\$ -	-	\$ -	-	\$ -	-	\$ -
25 to 30	6	41,341	-	-	-	-	-	-
30 to 35	32	328,118	-	-	-	-	-	-
35 to 40	41	363,440	11	110,038	1	6,433	-	-
40 to 45	29	366,134	11	109,019	4	30,881	2	20,677
45 to 50	69	556,107	16	161,978	7	97,015	4	39,728
50 to 55	89	796,349	31	294,486	15	166,587	11	139,801
55 to 60	100	741,037	62	481,260	23	577,330	10	110,428
60 to 65	119	841,311	59	420,135	34	281,931	10	116,239
65 & up	26	132,957	16	108,625	11	89,536	2	26,706
<u>Total</u>	<u>511</u>	<u>\$ 4,166,794</u>	<u>206</u>	<u>\$ 1,685,541</u>	<u>95</u>	<u>\$ 1,249,713</u>	<u>39</u>	<u>\$ 453,579</u>

Age	YEARS OF SERVICE							
	30 to 35		35 to 40		40 & Up		All	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	-	\$ -	-	\$ -	-	\$ -	5927	\$ 30,753,985
25 to 30	-	-	-	-	-	-	5218	34,312,477
30 to 35	-	-	-	-	-	-	3984	21,854,994
35 to 40	-	-	-	-	-	-	4727	20,149,381
40 to 45	-	-	-	-	-	-	4711	20,256,312
45 to 50	2	9,607	-	-	-	-	4289	19,100,341
50 to 55	7	64,356	-	-	-	-	3680	17,535,842
55 to 60	6	71,679	3	40,118	-	-	2718	12,790,223
60 to 65	5	44,621	4	54,492	1	11,666	1617	8,009,393
65 & up	2	33,014	1	2,455	2	15,255	540	2,002,317
<u>Total</u>	<u>22</u>	<u>\$ 223,277</u>	<u>8</u>	<u>\$ 97,065</u>	<u>3</u>	<u>\$ 26,921</u>	<u>37411</u>	<u>\$186,765,265</u>

PUBLIC EMPLOYEES RETIREMENT ASSOCIATION

Coordinated Members

SUMMARY OF PLAN

1. Name

Public Employees Retirement Association

2. Type of Plan

Self-insured, managed by a 13-member Board of Trustees, ten elected and three appointed by three employer groups.

3. Employer Included

Any county, city, borough, town, school district within the state, or a department or unit of the state or any other public body employing any person who is a public employee as defined by the law.

4. Employees Included

All full time and certain part time employees who either elected coverage under Section 218(d) of the Social Security Act, or were automatically so covered by reason of being new employees, and who are not contributing to any other local retirement plan.

5. Allowable Service

All periods of public service during which salary deductions were made or for which payments in lieu of salary deductions were deposited, including authorized leaves of absence, sick leaves, military leaves and layoffs.

6. Considered Salary

Salary means the periodical total compensation of any public employee before deductions for deferred compensation or supplemental retirement plans, and also means wages and includes net income from fees.

7. Employee Contributions

After July 1, 1973, 4% of considered salary.

8. Employer Contributions

Amount equal to the Employee Contributions plus 1 1/2% of considered salary.

9. Normal Retirement Annuity

After attainment of age 65 and completion of at least 10 years of allowable service.

"Average Salary" means an amount equivalent to the highest salary upon which contributions were paid for any five successive years of allowable service.

Annuity equal to:

- (a) 1% of "Average Salary" for each of the first 10 years of allowable service plus
- (b) 1 1/2% of "Average Salary" for each year of service over 10 years.

10. Late Retirement Annuity

Annual Annuity determined as for Normal Retirement, considering allowable service and salary to actual retirement.

11. Early Retirement Annuity

After attainment of age 58 and completion of 20 years of allowable service.

Annual Annuity determined as for Normal Retirement considering allowable service and salary to actual retirement and reduced by 1/2 of 1% for each month between actual retirement and attainment of age 65 if service is less than 30 years, and between actual retirement and age 62 if service is 30 or more years.

12. Special Early Retirement Annuity

After attainment of age 62 and completion of 30 years of allowable service.

Annual Annuity determined as for Normal Retirement considering allowable service and salary to actual retirement without reduction for such early retirement.

13. Proportionate annuity

At age 65 or earlier under a mandatory retirement statute or uniformly applied compulsory retirement policy and completion of at least three years but less than 10 years of allowable service.

Annual Annuity determined as for Normal Retirement, considering allowable service and salary to actual retirement.

14. Disability Benefit

In the event of total and permanent disability, after completion of 10 years of allowable service or attainment of age 50 and completion of 5 years of allowable service.

Annual Benefit payable to age 65 determined as for Normal Retirement, considering allowable service and salary to date of disablement. Total Benefit is limited to 100% of "Average Salary."

If disability continues to age 65, the disability benefit shall terminate and the person shall be deemed to be on retirement status and may elect to receive the greater of an annuity determined as for Normal Retirement or the disability benefit he was receiving prior to age 65, or he may select an optional annuity.

Any disabilitant attaining age 65 after July 1, 1973 shall have his annuity computed in accordance with the Normal Retirement Annuity formula above.

15. Death Benefit

In event of death of an active member, his accumulated contributions shall be paid to his designated beneficiary with interest thereon at 3 1/2% per annum compounded annually.

In the event of death of a retired annuitant, the excess (if any) of his accumulated contributions not paid out in the way of annuities shall be paid to his designated beneficiary, without interest.

Upon the death of an active member after age 58 and completion of 20 or more years of allowable service or if the member has made application for an annuity or disability benefit and dies prior to commencement of his benefit, the surviving spouse (in lieu of any other survivor benefit) may elect to receive an annuity equal to the 50% joint and survivor annuity the member could have qualified for on the date of his death.

16. Separation Benefit

In event of termination after 10 years of allowable service, a deferred vested annuity payable at age 65, or earlier if otherwise eligible, provided former member does not withdraw his contributions. (Said 10 years of allowable service need not represent PERA coverage only but may be in conjunction with service covered by other Minnesota funds such as those for state employees and teachers and others which have this same provision; deferred annuity is paid by each fund according to the number of years of allowable service in each fund.)

Annual Annuity determined as for Normal Retirement under the provisions of the Plan at date of termination considering allowable service and salary to date of such termination, augmented by interest at 5%, compounded annually from first of the month following separation from service or from July 1, 1971, whichever is later, to the date annuity begins to accrue.

All former members shall be eligible to receive a refund of their accumulated contributions without interest for the first three years of membership and thereafter with interest at 3 1/2% compounded annually. (Such elections is in lieu of any other benefits under the Plan.)

17. Increase for Retired Annuitants and Disabilitants who were receiving payments on June 30, 1973

(1) All retired annuitants drawing annuities as of June 30, 1973 shall receive an increase of 25%, payable as follows:

(a) Those included in the Minnesota Adjustable Fixed Benefit Fund shall have their annuities increased effective July 1, 1973, by the same ratio as the actuarially computed reserves at 3 1/2% interest bears to the actuarially computed reserves at 5% interest. (This increase amounted to 9.72%.)

(b) Said Annuitants shall receive the remainder of the 25% increase, or 15.28%, effective January 1, 1974.

(2) All disabilitants who were receiving benefits on June 30, 1973, shall receive an increase of 25% effective January 1, 1974.

18. Optional Annuities

A participant may elect to receive an equivalent actuarially reduced annuity in the form of either a 50% or 100% joint and survivor annuity.

19. Expenses

Paid by Association from retirement fund.

20. Actuarial Method

For purpose of reports to the Legislative Commission on Pensions and Retirement, costs for the Plan shall be determined on an "entry-age level normal cost" basis and 5% interest.

Compensation and Capital, Inc.

309 West Jackson Blvd.

Chicago, Illinois 60606

RECEIVED

NOV 19 1975

November 12, 1975

Public Employees Retirement Assn.

Mr. Harry Newby
Chairman
Board of Trustees
Minnesota Public Employees
Retirement Association
Capitol Square Building
550 Cedar Street
St. Paul, Minnesota 55101

Re: 1975 Actuarial Valuation
and Survey

Dear Mr. Newby:

We are pleased to present the 1975 actuarial valuation report for the Minnesota Public Employees Retirement Association. The figures enclosed in the report are in accordance with the Minnesota law, with particular note of the fact that the computations are made in accordance with the entry age normal method of financing, discounting future obligations at 5% interest, and assuming future salary increases at a rate of 3-1/2% a year.

The principal conclusion of the report is that general employees and police and fire program are in reasonable actuarial balance. Based on a 22 year amortization requirement, the actuarial contribution for the general fund is 0.690% higher than the expected employer and employee contributions. This differential of 5% between the expected sources of income and the actuarial requirement is considered as within the range of reasonable actuarial variation. Some variation is expected since it is virtually impossible to exactly match a fixed contribution rate with a benefit structure independently determined in accordance with a percentage formula.

The police and fire fund continues to display a positive margin of 2.403% as against the actuarial requirement. While this is a salutary circumstance, this margin must be qualified by the fact that calculations are made assuming an average retirement of age 62. As shown in the section on Actuarial Survey, the average age of retirement of the police and firemen has been dropping steadily over the past two years, from 63-1/2 two years ago to just under 61 last year. If this trend continues there will be a need to change the assumption concerning the average retirement age downward, which in turn will cause the actuarial requirement

Mr. Harry Newby
Page Two
November 12, 1975

to move upward. We do not believe, however, it is appropriate to change the assumption until a better idea of the new average retirement age reflecting the final average earnings law can be established.

To provide the board members with additional information reflecting the format of prior year's computations, we have enclosed separate actuarial analyses of the basic and coordinated members in the general fund. These exhibits are contained in the sections toward the end of the report.

While the analysis conforms to the patterns established in prior years, one notable new element has entered into the reconciliation of the change in the actuarial reserves for the basic members. It currently appears that many of the basic members are deferring their retirement, i.e., they are retiring at a lower rate than assumed in our rates of retirement.

This deferral of retirement is resulting in significant savings to the Association. We have estimated that the actuarial reserves were decreased by \$27.7 million on account of this trend. This actuarial gain is commensurate with, and an offset to, the increase due to greater than anticipated increases in compensation. Because of this new element entering the picture, the net increase in the reserves is very substantially smaller than for the prior year.

This decrease in the active life reserves appears only for the basic group who are aging because of no new entrants. The reserves required for both the coordinated and the police and fire members are quite stable as compared to the underlying payroll, with the degree of experience variation being less than 2% for both groups.

A second important aspect of the current year's valuation is the handling of the assets underlying the adjustable fixed benefit. This year for the first time, the market value of the adjustable fixed benefit fund has fallen below the reserves required for the minimum retirement benefits, i.e., the level of benefits being paid when the program was changed to final average earnings. For example, the general fund adjustable fixed benefit assets were \$129.9 million as against the minimum pension obligation of \$145.5 million; corresponding figures for the police and fire fund are \$9.7 million as against a \$10.8 million required reserve.

Mr. Harry Newby
Page Three
November 12, 1975

No charge on this account has been currently levied against the Association. A deficit account is building up in the adjustable fixed benefit program as the minimum benefits are being paid out of the reduced asset balance. At the present time, this approach reflects the expectancy that the market values of the adjustable fixed benefit fund will recover sufficiently to make up the short fall. In other words, as the assets in that fund appreciate, the first portion of the appreciation will be credited against the reserves for the minimum benefit, and only after that is fully funded again, will the benefits to the retired members commence to increase.

While these relationships are obscured by the averaging process incorporated in the adjustable fixed benefit law, the Board of Trustees should be aware of the fact that this deficit exists and the expectancy that it will be made out of future market appreciation rather than being levied against the asset balances of the Association.

The report also includes an exhibit as requested by Franklin Smith of George Stennes & Associates to show the effect of terminating the plan on the valuation date. The exhibit shows the amount of employee contributions which would be refunded if the plan were terminated for non-vested participants, and the present value of the deferred benefit to which the participant would be entitled upon reaching normal retirement age for the rest of the participants.

This calculation highlights an important aspect and cost associated with the augmentation provisions. If the plan is terminated and the augmentation benefit continues to apply, the obligation is substantially greater than if only the benefits earned to date are considered. For example, the obligation to vested members with more than 10 years of service increases by \$179 million for the general members and by \$7 million for the police and fire.

The benefits earned to date to active members increased by 48% from \$376 million to \$555 million for the general employees and by 15% from \$47 million to \$54 million for the police and fire fund. If augmentation applied to members with less than ten years of service, the obligation increases substantially, i.e., an additional \$98 million for the general fund and \$16 million for the police and fire members.

Applying the augmentation provisions in this situation is equivalent to basing the members deferred listed benefit on termination on a projected 5% annual salary increase for the years to

Mr. Harry Newby
Page Four
November 12, 1975

normal retirement after the plan is terminated. Such a result would be most unusual. We believe that the more appropriate course is to follow the pattern of the private retirement system and the federal Pension Benefit Guarantee Corporation, where the benefits guaranteed are those earned to date without projected salary increases. We believe that the Board should recommend to the Legislature that, if the augmentation provisions cannot be removed entirely, it should be limited in its effect to only those years prior to termination of the program. The argument for removing it in its entirety, of course, arises out of the fact that the new reciprocal service credit is a more appropriate and usual adjustment of a transferred member's benefit.

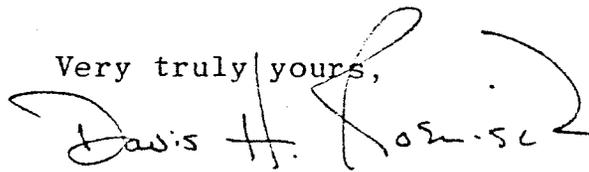
This benefits earned to date figure is the same one which we have used in a supplemental report to indicate to the Board of Trustees their progress in meeting the obligation on termination of the plan. In order to cross check our conclusion that the fund is on an actuarially sound basis, we have again prepared a supplemental report.

Two important conclusions stem from this supplemental report. First, the program is in actuarial balance when measured in accordance with the terms of the new federal Employee Retirement Security Act, even if the basic members are fully funded over their remaining working lifetime, a shorter period than the 22 year period of amortization to 1997.

The second important finding is that the ratio of the assets to the entry age normal accumulated contributions (the accrued liability under Minnesota law) continues to improve. Three years ago this ratio for the general fund stood at 57%. For the current year, the ratio is 62%, even though the obligation has risen from \$611 million to \$725 million. This increase has been more than off-set by the increase in asset balances from \$349 million to \$449 million. The same story is true for the police and fire fund where the ratio has increased from 75% to 83%, even though the obligation has increased from \$51.8 million to \$67.6 million.

Should you have any question concerning these comments, or the report, we look forward to discussing it with you at the Board Meeting on November 13th.

Very truly yours,



Fellow, Society of Actuaries

DHR:jah
Enclosure



PUBLIC EMPLOYEES RETIREMENT ASSOCIATION

(AN EQUAL OPPORTUNITY EMPLOYER)

In reply please refer to No. _____

November 19, 1975

BOARD OF TRUSTEES

Elected:

DONALD F. BEACH, Head Custodian
Chippewa Jr. High School
Independent School District No. 621
Mounds View, Minn. 55113

EDWARD E. CLEARY,
1921 Montreal Ave.
St. Paul, Minn. 55116

HAROLD H. DREWS, Business Administrator
Independent School District No. 544
Fergus Falls, Minn. 56537

H. J. FORSBERG,
3712 E. Third St.
Duluth, Minn. 55804

SONIA F. GARDNER, Matron
Spring Lake Park Junior High School
Independent School District No. 16
Spring Lake Park, Minn. 55432

ORVILLE I. JORGENSEN, Program Supervisor
Family Services Division
Hennepin County Welfare Dept.
Minneapolis, Minn. 55415

ROBERT W. LARSON, Custodial Engineer
Independent School District No. 279
Osseo, Minn. 55369

HARRY NEWBY,
807 Ninth St.
Cloquet, Minn. 55720

HARRY F. SCHWABEL, Retired Annuitant
559 So. Lexington Pkwy.
St. Paul, Minn. 55102

RALPH E. SLEEPER, Highway Engineer
Blue Earth County
Mankato, Minn. 56001

Designated by employer groups:

JAMES L. JACOBS, Administrative Assistant
Minnesota School Boards Association
St. Peter, Minn. 56082

RALPH T. KEYES, Executive Secretary
The Association of Minnesota Counties
St. Paul, Minn. 55103

DEAN A. LUND, Executive Director
League of Minnesota Municipalities
300 Hanover Bldg.
480 Cedar St.
St. Paul, Minn. 55101

OFFICERS:

HARRY NEWBY, Chairman
RALPH E. SLEEPER, Vice Chairman
JAMES F. LORD, Treasurer
O. M. OUSDIGIAN, Executive Director
(Mrs.) C. M. MEEHAN, Asst. Director

Mr. John C. Mandeville
Executive Secretary
Legislative Commission on
Pensions and Retirement
41 State Office Building
Saint Paul, Minnesota 55155

Dear Mr. Mandeville:

Under Minnesota Statutes, Section 356.21, the Public Employees Retirement Association is required to furnish the Legislative Commission on Pensions and Retirement with copies of annual actuarial valuation reports. In compliance therewith we enclose 12 copies of the Actuarial Valuation Report for fiscal year ended June 30, 1975, together with Supplementary Report, prepared by Roenisch & Carberry, Inc., Consulting Actuaries, Northfield, Illinois. This report is dated November 10, 1975.

If we can be of any further service to you in this connection, please let us know.

Yours very truly,

PUBLIC EMPLOYEES RETIREMENT ASSOCIATION

O. M. Ousdigian

Executive Director

OMO:mp
Enc.

GEORGE V. STENNES AND ASSOCIATES

December 2, 1975

Mr. Davis H. Roenisch
Compensation and Capital, Inc.
309 West Jackson Boulevard
Chicago, Illinois 60606

Dear Dave:

Re: 1975 PERA Valuation

I have reviewed the above valuation together with your letter of November 12 to Harry Newby, and I have run into a few questions.

The most important one concerns the actuarial gain of \$27,740,796 in the Basic Group which results from retirements occurring earlier than you have assumed.

I cannot find any statement about the assumptions relative to retirement other than the one which appears on page 11 which states that the assumed age of 65 for employees who have less than 30 years of service coupled with an assumption of 30% at age 62, 15% at ages 63 and 64, and 100% at age 65 for employees with 30 or more years of service. The same statement appears in the 1974 Valuation, and there is nothing to indicate that this assumption was changed for the Basic Group for the 1975 Valuation.

Therefore, I am wondering whether the \$27 million actuarial gain results from a change in this assumption for the Basic Group or whether it is a gain for this year only resulting from retirements during the 1974-75 plan year occurring at ages greater than the assumed ages. At first sight, the figure seems to me to be too large to be a gain resulting from one year's experience, but I would like to see a statement of the new assumption if one has been introduced.

In each analysis of the change in the unfunded liability, you show an item which is called Other Income. For the Coordinated Group, this was an insignificant item, but for the Basic Group it was over \$2 million, and for the Police and Fire Fund it was \$615,109. I would like to have some idea as to the source of this Other Income item in each case.

GEORGE V. STENNES AND ASSOCIATES

Mr. Davis H. Roenisch - 2

December 2, 1975

For the Basic Group, you have Actuarial Gains of \$798,896, for the Coordinated Group you have Actuarial Losses of \$1,223,611, and for the Police and Fire you have Actuarial Gains of \$196,151. I would like to see this separated by mortality gains or losses among active lives, termination gains or losses among active lives, and mortality gains or losses among retired lives. I believe that this would give the breakdown among principal categories, but if the number of disablements was significantly higher than expected, this loss should be shown separately. As usual, the results can be reasonable approximations.

Finally, one detail. In the 1974 Valuation for the Basic Group, the total number of survivors receiving benefits was shown as 3,656. In tracing the number of survivors through the year, the 1975 report starts out with a total of 3,586. Please let me know which is the correct figure.

I have not yet reviewed the experience studies nor the exhibit showing the effect of terminating the plans on the valuation date. I may have some questions when this is done. When we prepared the material on the effect of terminating the plan for the Highway Patrol Fund, we were inclined to raise the same question which you raised about the desirability of the statute which provides for the augmentation. This is a subject which should be reviewed.

Sincerely yours,

Franklin C. Smith

FCS:ma

cc: Mr. John Mandeville

January 8, 1976

Mr. Donald F. Cannon
Compensation & Capital, Inc.
464 Central Avenue
Northfield, Illinois 60093

Dear Don:

Re: PERA Valuation

Thank you for your letter of December 31, 1975. Since I have not lived with the details of the valuation, the gain of \$27,740,796 from fewer retirements than anticipated still seems quite large, particularly in view of the fact that we do not have a gain of this sort reported in previous years. It will be interesting to see what develops along this line on subsequent valuations.

Recently I have had time to turn my attention to the report on the supplemental experience study which appears in the valuations of the various PERA plans. I believe that some additional items are needed. First, nothing is said about actual mortality experience compared with expected. This should be done for retired lives and active lives separately. I thought that perhaps the mortality on the active lives was included in the part of the experience study devoted to separation, but upon closer examination, I noted that the assumed separation figures included only the separation rates and not the mortality rates.

The other item which is missing is a comparison of actual disabilities with expected. Since disability benefits can be costly if the deviations run the wrong direction, I believe that this item is quite important.

Sincerely yours,

Franklin C. Smith

FCS:ml
cc: John Mandeville

GEORGE V. STENNES AND ASSOCIATES

CONSULTING ACTUARIES

2850 METRO DRIVE

MINNEAPOLIS, MINNESOTA 55420

(612) 854-1155

ACTUARIES

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C. D. SPANGLER, F.C.A.P.
ORLEN E. LUNDE, F.S.A.
ERNIE FRANKOVICH, F.S.A.
DANIEL H. HAAK, A.S.A.
RICHARD A. SWIFT, F.S.A.
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PENSION ADMINISTRATION

PALMER G. ROOT
ROSALYN BERNSTEIN
CAROLYN RUCKER
SUZANNE DRESSLER
SUZANNE SORNSON

June 17, 1976

Mr. Davis H. Roenisch
Compensation & Capital, Inc.
125 South Wacker Drive
Chicago, Illinois 60606

Dear Dave:

Re: 1975 PERA Valuation

Because a number of more pressing items came up during January and February, the Commission was unable to review most of the memorandums which I had prepared on the June 30, 1975 valuations of the various retirement funds. In addition, the Commission did not meet during the latter part of the 1976 Session of the Legislature. As a result, the memoranda on the two PERA funds were not reviewed until the Commission resumed its meetings last Thursday. At that time, I was asked to pursue two or three items with you.

The report for the Basic Group shows an actuarial gain of \$27,740,796 from deferral of retirements. This would mean that employees retired during the year at rates smaller than the assumed rates which appear on page 11, namely, 30% at age 62 and 15% at ages 63 and 64 for employees with 30 or more years of service at those ages, and 100% at age 65 for the remainder who did not take advantage of the early retirement and also those with less than 30 years of service.

A gain from this source has not been reported in prior valuations, and I note the same set of assumptions in the 1974 report. It occurs to me that there could have been gains from this source in prior years but the size of these gains was small enough that it was combined with other actuarial gains and losses. Therefore, I am puzzled about the sudden appearance of a gain of this magnitude from this source on the 1975 report, and the members of the Commission have the same reaction. I reviewed the very useful age and service distribution tables which you always include in the reports as well as the numbers of new retirements in the various years, and I could not spot anything which indicated a sudden slowing down of retirements

GEORGE V. STENNES AND ASSOCIATES

Mr. Davis H. Roenisch - 2

June 17, 1976

during the year ending June 30, 1975. Don Gannon did send me some discussion on this topic in a letter dated December 31, 1975, but I do not believe that it addresses itself to the basic data as to numbers of retirements.

The normal cost on the Coordinated Group increased from 6.73% of payroll in 1974 to 7.18% in 1975. Although this is not a terrific change, an increase of about 0.5% begins to get outside the range of normal fluctuations. When I looked at the calculation of the normal cost, I noted that the total payroll increased by 22.5%, but the present value of future payroll increased by only 7.7%. Again, I went over your tables which show the distribution of payroll by age and sex in the 1974 and 1975 reports, and I could not spot a marked change in this distribution. Therefore, I wondered why these two percentage increases were so far apart. Since the present value of future payroll is the denominator in the fraction which produces the normal cost, an understatement of this present value would produce a normal cost which was too large. Your comments on this point would be appreciated.

One item of lesser importance was the fact that in the section on the unfunded cost of vested benefits, the present value of vested benefits with the augmentation came out larger than the total accrued liability in the valuation itself. This occurred not only with the General Funds but also with the Police and Fire Fund. Two possible reasons for this occurred to me, and we would be interested in hearing your comments on these observations. First, the present value of vested benefits is based upon a set of actuarial assumptions in which there are no turnover rates. Second, the augmentation has a substantial effect on the size of the prospective vested benefit. In fact, the factor for augmenting a benefit at 5% is larger than the factor for determining a final average salary with a 3 1/2% salary scale.

One other question came up which, I presume, should be answered by the PERA staff. There were a few new entrants in the Basic Group in the 1974-75 plan year, and your tables show several thousand who had between five and ten years of service. Since for several years all new participants were supposed to go into the Coordinated Group, we wondered about these two items.

Sincerely yours,

Franklin C. Smith

FCS:ml

cc: John Mandeville

PERA VALUATION AS OF JUNE 30, 1975

(General Fund)

The purpose of this memorandum is to discuss the Valuation Report of the Public Employees' Retirement Association, dated November 10, 1975, which was submitted to the Commission in accordance with Chapter 356 of Minnesota Laws 1974. The valuation was made using the entry age normal cost method and assuming 5% interest. The 1975 and 1974 valuation reports were completed by Davis H. Roensch of Compensation and Capital, Consulting Actuaries.

This memorandum contains the following:

1. Statistical and Valuation Data
2. Discussion of Valuation Results
3. Unfunded Cost of Vested Benefits
4. Supplemental Experience Study
5. Conclusion

Although separate discussions of the Basic Group and the Coordinated Group are no longer required, the Report did contain both separate and consolidated information, and all three will be reviewed here.

A. BASIC GROUP

1. Statistical and Valuation Data

Results of the valuation reports as of June 30, 1974 and June 30, 1975 are shown for comparative purposes. Figures are rounded where necessary for simplicity of presentation.

	<u>As of</u> <u>June 30, 1974</u>	<u>As of</u> <u>June 30, 1975</u>
(1) <u>Membership</u>		
Active Members	22,484	21,242
Retired Members	6,273	6,613
Disabled Members	251	315
Survivors of Deceased Members	3,656	3,761
Deferred Annuitants	782	826
(2) <u>Payroll and Annuities Payable</u>		(Millions of Dollars)
Covered Payroll	\$ 184.8	\$ 188.2
Annuities Payable (annual)	18.1	20.1

	<u>As of</u> <u>June 30, 1974</u>	<u>As of</u> <u>June 30, 1975</u>
(3) <u>Valuation Balance Sheet</u>	(Millions of Dollars)	
Accrued Liability	\$ 582.9	\$ 588.4
Assets	<u>318.8</u>	<u>330.3</u>
Unfunded Accrued Liability (Deficit)	\$ 264.1	\$ 258.1
Funding Ratio (Assets/Accrued Liability)	54.7%	56.1%
(4) <u>Normal Cost and Funding Costs</u>		
Normal Cost	13.68%	13.863%
Expenses	<u>.16</u>	<u>.142</u>
Normal Cost Plus Expenses	13.84%	14.005%
Normal Cost Plus Expenses	13.84%	14.005%
Interest on Deficit	<u>7.14</u>	<u>6.858</u>
Minimum Contribution	20.98%	20.863%
Normal Cost Plus Expenses	13.84%	14.005%
Amortization by 1997	<u>10.59</u>	<u>10.420</u>
Required Contribution	24.43%	24.425%
(5) <u>Statutory Contributions</u>		
Employee	8.0%	8.0%
Employer Regular	8.0	8.0
Employer Additional	<u>2.5</u>	<u>2.5</u>
Total Contributions	18.5%	18.5%

2. Discussion of Valuation Results

The normal cost has changed very little during the year. It should be noted that the statutory regular contributions which total 16% exceed the normal cost plus expenses of 14.005%. On the other hand, the excess in this area plus the employer additional contribution of 2.5% falls short of the required amortization contribution of 10.420%. However, actuarial balance is not required for the Basic Group separately, and this point will be addressed in reviewing the consolidated section of the Report.

The unfunded accrued liability decreased by \$5,949,022. The PERA Actuary shows the following items to trace the change in the deficit.

Decreases:

Deviations in Retirement Rates	\$ 27,740,796
Excess Interest	923,870
Other Actuarial Gains	<u>798,896</u>

Total Decreases \$ 29,463,562

Increases:

Salary Scale Loss	\$ 21,215,888
Deficiency in Contribution	<u>2,298,652</u>

Total Increases 23,514,540

Net Decrease \$ 5,949,022

The largest item in the above analysis appears for the first time this year. Such gain occurs in a retirement system when active members continue in active service longer than is assumed in the cost calculations. It did seem to us that this item was rather large for one year's gain of this type, particularly when gains of this type have not been shown in previous valuations. However, the matter has been reviewed by the Actuary, and he confirmed the result.

B. COORDINATED GROUP

1. Statistical and Valuation Data

	<u>As of</u> <u>June 30, 1974</u>	<u>As of</u> <u>June 30, 1975</u>
(1) <u>Membership</u>		
Active Members	54,379	59,898
Retired Members	1,064	1,261
Disabled Members	71	81
Survivors of Deceased Members	6	7
Deferred Annuitants	60	85
(2) <u>Payroll and Annuities Payable</u>	(Millions of Dollars)	
Covered Payroll	\$ 322.1	\$ 394.8
Annuities Payable (annual)	1.5	1.9
(3) <u>Valuation Balance Sheet</u>	(Millions of Dollars)	
Accrued Liability	\$ 101.8	\$ 136.7
Assets	<u>87.7</u>	<u>118.8</u>
Unfunded Accrued Liability (Deficit)	\$ 14.1	\$ 17.9
Funding Ratio (Assets/Accrued Liability)	86.1%	86.9%
(4) <u>Normal Cost and Funding Costs</u>		
Normal Cost	6.73%	7.182%
Expenses	<u>.16</u>	<u>.142</u>
Normal Cost Plus Expenses	6.89%	7.324%
Normal Cost Plus Expenses	6.89%	7.324%
Interest on Deficit	<u>0.21</u>	<u>0.227</u>
Minimum Contribution	7.10%	7.551%
Normal Cost Plus Expenses	6.89%	7.324%
Amortization by 1997	<u>0.32</u>	<u>0.344</u>
Required Contribution	7.21%	7.668%
(5) <u>Statutory Contributions</u>		
Employee	4.0%	4.0%
Employer Regular	4.0	4.0
Employer Additional	<u>1.5</u>	<u>1.5</u>
Total Contributions	9.5%	9.5%

2. Discussion of Valuation Results

The normal cost for the Coordinated Group increased from 6.73% to 7.182%, but the Report did not comment on this. In reviewing the detailed information, we found that although the total payroll increased by 22.5%, the present value of future payroll, which is an important factor in determining the normal cost, increased by only 7.7%. Since we could not find a marked change in the distribution of payroll by age and sex, we were puzzled over the difference in these two percentage increases. We ask the Commission whether it wants us to investigate further the increase in normal cost.

The unfunded accrued liability for the Coordinated Group increased by \$3,770,233 during the year. The PERA Actuary shows the following breakdown:

Increases:

Salary Scale Loss	\$ 13,536,368
Other Actuarial Losses	<u>1,223,611</u>

Total Increases	\$ 14,759,979
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Decreases:

Amortization Contribution	\$ 10,601,375
Excess Interest	<u>388,371</u>

Total Decreases	<u>10,989,746</u>
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Net Increase	\$ 3,770,233
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C. CONSOLIDATED REPORT

Since the Basic Report shows a deficiency in financing and the Coordinated Report shows a surplus, the question arises as to whether the System as a whole is in balance. This question can be answered best by comparing the total requirement with the support either in percentages of payroll or in dollars. If the former basis is used, then the Statutory support is obtained by weighting the percentage contributions by the ratios of each group's payroll to the total.

The results as a percentage of payroll follow:

	<u>1974</u>	<u>1975</u>
Required Support		
Normal Cost	9.15%	9.356%
Expenses	0.16	0.142
Amortization	4.07	3.597
Total	13.38%	13.095%
Statutory Support		
Employee	5.46%	5.291%
Employer Regular	5.46	5.291
Employer Additional	1.86	1.823
Total	12.78%	12.405%
Deficiency	0.60%	0.690%

The results in dollars follow:

	<u>1974</u>	<u>1975</u>
Required Support		
Normal Cost Plus Expense	\$ 47,775,691	\$ 55,265,068
Amortization	20,622,964	20,967,662
Total	\$ 68,398,655	\$ 76,232,730
Statutory Support		
Employee	\$ 27,671,862	\$ 30,843,851
Employer Regular	27,671,862	30,843,851
Sub Total	\$ 55,343,724	\$ 61,687,702
Employer Additional	9,452,719	10,625,524
Total	\$ 64,796,443	\$ 72,313,226
Deficiency	\$ 3,602,212	\$ 3,919,504

Although the deficiency in dollars has increased from \$3,602,212 to \$3,919,504, the ratio of deficiency to required support has decreased from 5.27% to 5.19%. In both years, the total statutory support appears adequate to pay normal cost and retire the deficit by 2009.

3. Unfunded Cost of Vested Benefits

The Commission requested the actuaries for the various funds to present an additional item of information consisting of the present value of benefits earned to the date of valuation and to compare this present value with the assets. In the Report, this was done on a consolidated basis, and the results were as follows:

Reserves for Retirees	\$ 178,430,606	
Reserves for Actives Eligible for Retirement	108,371,102	
Refunds for Non-Vested Participants	48,759,107	
Reserves for Deferred Vested Benefits	<u>400,196,993</u>	
Total		\$735,757,808
Assets		<u>449,178,269</u>
Unfunded Cost of Vested Benefits		\$ 286,579,539

Ratio of Assets to Total 61.0%

It was estimated that interest earnings of 12% prior to retirement age would make the above ratio 100%.

The above results include a 5% augmentation in the benefits of vested active members from the valuation date to the date of retirement. If the augmentation is eliminated, then the results are as follows:

Total Reserve Requirement	\$ 556,873,746
Assets	<u>449,178,269</u>
Unfunded Cost of Vested Benefits	\$ 107,695,477

Ratio of Assets to Total 80.7%

In this case, the estimated interest rate is reduced to 8.5%.

It is interesting to note that the present value of vested benefits with the augmentation (\$735,757,808) came out larger than the accrued liability in the valuation itself (\$725,173,867).

4. Supplemental Experience Study

As required by statute, a Supplemental Experience Study for the period from July 1, 1971 to June 30, 1975 was submitted in addition to the valuation report.

The terminations among active employees were summarized by 5-year age groups and by sex with results not only on a combined basis but also separated by Basic and Coordinated groups. To cut down the number of possible items, we will show the ratio of actual to expected for each group.

<u>Age</u>	<u>Basic</u>	<u>Males</u>	<u>Coordinated</u>	<u>Combined</u>
20-25	306.6%		147.7%	149.3%
25-30	49.9		123.1	117.9
30-35	43.9		103.1	89.2
35-40	58.4		134.7	105.0
40-45	72.7		176.2	131.5
45-50	104.6		195.2	156.9
50-55	116.1		248.4	200.0
		<u>Females</u>		
20-25	84.6%		74.9%	75.2%
25-30	69.6		100.2	98.0
30-35	48.3		92.7	88.4
35-40	56.3		101.7	97.3
40-45	73.5		141.6	130.1
45-50	80.1		156.3	137.2
50-55	105.9		235.3	189.9

If the Basic Group were to be continued as a separate plan, consideration of more conservative termination rates would be in order. Under present conditions, this is probably not worth the trouble and expense.

For other elements of experience, the ratio of actual to expected for various groups turned out as follows:

	<u>Basic</u>	<u>Coordinated</u>	<u>Combined</u>
Deaths - Active Lives	214%	94%	150%
Deaths - Retired in Adjustable Fund	98	117	100
Deaths - Retired not in Adjustable Fund	112	(Not Applicable)	
Disablements - Active Lives	83	47	73

For the general group, the assumed average ages at retirement are as follows:

Less than 30 Years of Service	Age 65
30 or More Years of Service	30% at Age 62 15% at Ages 63 and 64 100% at Age 65

As of July 1, 1975, the average ages at retirement of all retired members were as follows:

Basic	66.0	Coordinated	65.9	Combined	66.0
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In each of the four years under review, the average ages at retirement were as follows:

	<u>1971-72</u>	<u>1972-73</u>	<u>1973-74</u>	<u>1974-75</u>
Basic	65.8	65.9	65.3	65.1
Coordinated	66.1	67.0	65.4	65.4
Combined	65.9	66.2	65.3	65.2

Although one can observe a trend toward lower retirement ages, there is still some margin in the assumed rates in view of the assumption that some retirements will occur at ages 62, 63 and 64.

5. Conclusion

The Report filed by PERA conforms with the statutes. Under the present laws and standards, the financing for the Coordinated Group appears to be more than adequate but that for the Basic Group is not sufficient to retire the Basic deficit by 1997. When PERA-General Employees is viewed as one system, the financing appears to fall somewhat short of normal cost plus amortization by 1997, but the deficiency is not substantial.

Franklin C. Smith
Associate, Society of Actuaries
GEORGE V. STENNES AND ASSOCIATES
Commission Actuaries

PERA VALUATION AS OF JUNE 30, 1975

(Police and Fire Fund)

The purpose of this memorandum is to discuss the valuation report of the PERA Police and Fire Fund, dated November 10, 1975, which was submitted to the Commission in accordance with Chapter 356 of Minnesota Laws 1974. The valuation was made using the entry age normal cost method and assuming 5% interest. The 1975 and 1974 valuation reports were completed by Davis H. Roenisch of Compensation and Capital, Consulting Actuaries.

This memorandum contains the following:

1. Statistical and Valuation Date
2. Discussion of Valuation Results
3. Unfunded Cost of Vested Benefits
4. Supplemental Experience Study
5. Conclusion

1. Statistical and Valuation Data

Results of the valuation report are shown below. Figures are rounded where necessary for simplicity of presentation.

	<u>As of</u> <u>June 30, 1974</u>	<u>As of</u> <u>June 30, 1975</u>
<u>(1) Membership</u>		
Active Members	3,393	3,690
Retired Members	290	331
Disabled Members	9	12
Survivors of Deceased Members	215	241
Deferred Annuitants	17	22
<u>(2) Payroll and Annuities Payable</u>		
Covered Payroll	\$35,270,010	\$40,849,878
Annuities Payable (annual)	1,191,088	1,387,081
<u>(3) Valuation Balance Sheet</u>		
Accrued Liability	\$59.5 million	\$67.6 million
Assets	<u>47.5 million</u>	<u>56.1 million</u>
Unfunded Accrued Liability (Deficit)	\$12.0 million	\$11.5 million
Funding Ratio (Assets/ Accrued Liability)	79.8%	82.9%

	As of <u>June 30, 1974</u>	As of <u>June 30, 1975</u>
(4) <u>Normal Costs and Funding Costs</u>		
Normal Cost	15.80%	15.356%
Expenses	<u>0.10</u>	<u>.095</u>
Normal Cost Plus Expenses	15.90%	15.451%
Normal Cost Plus Expenses	15.90%	15.451%
Interest on Deficit	<u>1.70</u>	<u>1.413</u>
Minimum Contribution	17.60%	16.864%
Normal Cost Plus Expenses	15.90%	15.451%
Amortization by 1997	<u>2.52</u>	<u>2.146</u>
Required Contribution	18.42%	17.597%
(5) <u>Statutory Contributions</u>		
Employee	8.0%	8.0%
Employer Regular	12.0	12.0
Employer Additional	<u>0.0</u>	<u>0.0</u>
Total	20.0%	20.0

2. Discussion of Valuation Results

The change in the normal cost was minor and within the limits of reasonable fluctuations. Since the 1974 report indicated more than adequate funding, the amortization requirement in 1975 is less than in 1974, particularly when related to a larger payroll.

The deficit decreased from \$12,006,527 to \$11,541,019 which is a decrease of \$465,508. The PERA Actuary gives the following analysis of this change:

Decreases:

Excess Interest	\$187,882
Amortization Contribution	1,990,867
Other Actuarial Gains	<u>196,151</u>

Total Decreases	\$2,374,900
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Increase:

Salary Scale Loss	<u>\$1,909,392</u>
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Total Increase	<u>1,909,392</u>
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Net Decrease	\$ 465,508
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3. Unfunded Cost of Vested Benefits

The Commission requested the actuaries for the various funds to present an additional item of information consisting of the present value of benefits earned to the date of valuation and to compare this present value with the assets. In the PERA Police and Fire Fund, the following results were obtained:

Reserves for Retirees	\$13,099,692
Reserves for Actives Eligible for Retirement	13,465,640
Refunds for Non-Vested Participants	6,874,326
Reserves for Deferred Vested Benefits	<u>34,248,169</u>
Total	<u>67,687,827</u>
Assets	<u>56,100,213</u>
Unfunded Cost of Vested Benefits	\$11,587,614
Ratio of Assets to Total	82.9%

It was estimated that interest earnings of 9½% prior to retirement age would make the above ratio 100%.

The above results include a 5% augmentation in the benefits of vested active members from the valuation date to the date of retirement. If the augmentation is eliminated, then the results are as follows:

Total Reserve Requirement	\$60,295,656
Assets	<u>56,100,213</u>
Unfunded Cost of Vested Benefits	\$ 4,195,443
Ratio of Assets to Total	93.0%

In this case, the estimated interest rate is reduced to 7%.

One interesting item in the above information is the fact that with the augmentation, the present value of vested benefits (\$67,687,827) came out very close to the accrued liability in the valuation itself (\$67,641,232).

4. Supplemental Experience Study

As required by statute, a Supplemental Experience Study for the period from July 1, 1971 to June 30, 1974 was submitted in addition to the valuation report.

The terminations among active employees were summarized by 5-year age groups. The results follow:

<u>Age</u>	<u>Per 1,000</u>		
	<u>Expected</u>	<u>Actual</u>	<u>A/E</u>
20-25	70.0	114.0	162.9%
25-30	68.9	92.0	133.5
30-35	62.4	60.0	96.2
35-40	39.5	78.0	197.5
40-45	18.5	48.0	259.5
45-50	8.7	45.0	517.2
50-55	2.9	60.0	2,069.0

For other elements of the experience, the ratio of actual to expected for various groups turned out to be as follows:

Deaths - Active Lives	233%
Deaths - Retired in Adjustable Fund	110
Deaths - Retired not in Adjustable Fund	233
Disablements - Active Lives	15

These ratios are all favorable, and the very low ratio on disablements stems partly from a set of high assumed rates. The PERA Actuary feels that it is prudent to use considerably higher assumed disablement rates for this group than for the general group on account of the extra hazards faced by fire fighters and law enforcement officers.

The valuations of this fund in recent years have been based on an assumed average retirement age of 62. As of July 1, 1975, the average age at retirement of all retired members was 63.0. However, the average age of new retirees in each of the four plan years varied as follows:

<u>1971-72</u>	<u>1972-73</u>	<u>1973-74</u>	<u>1974-75</u>
63.5	63.6	62.1	60.8

Therefore, this item should be monitored closely in the next few years.

5. Conclusion

The Report filed by PERA relative to the Police and Fire Fund conforms with the requirements of the various statutes.

The statutory contribution of 20% covers the required support by a good margin. However, if the present trend toward earlier retirement ages continues, this margin will be reduced.

Attention is also directed to the fact that the total financing of this plan is shared by Employees and Employers.

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