

BUCK CONSULTANTS

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March 2, 2000

Mr. Gary Peterson
Auditor-Controller/Treasurer-Tax Collector
Fresno County
Employees' Retirement Association
P.O. Box 1247
Fresno, California 93715-1247

Dear Bill:

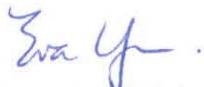
We are pleased to present our June 30, 1998 report on 4% COLA. Our results are based upon the actuarial assumptions and statistical data used to perform the June 30, 1998 actuarial valuation.

We look forward to discussing this report with you and answering any questions you may have.

Respectfully submitted,



Michael Mochle, F.S.A., E.A., M.A.A.A.
Principal and Consulting Actuary



Eva Yum, F.S.A.
Associate Consulting Actuary

R E C E I V E D

MAR 03 2000

AUDITOR-CONTROLLER
MINISTRATION DIVISION

FRESNO COUNTY

EMPLOYEES' RETIREMENT ASSOCIATION

REPORT ON 4% COLA
AS OF JUNE 30, 1998

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SECTION I: INTRODUCTION

We were asked to determine the costs associated with the adoption of a 4% COLA provision. It is our understanding that the COLA will be applied to both past and future service for current active members and that the current inactive and retired groups will also be covered by this provision for prospective benefits. This report contains the results of our study.

The results presented herein are based upon the data used to perform the June 30, 1998 actuarial valuation of the Association. Below we show a summary of the statistical information.

SUMMARY OF ACTIVE MEMBERSHIP	
	June 30, 1998
General	
Number	5,200
Annual Payroll*	\$ 181,813,000
Average Monthly Salary	\$ 2,914
Average Age	43.54
Average Service	9.82
Safety	
Number	857
Annual Payroll*	\$ 37,585,000
Average Monthly Salary	\$ 3,655
Average Age	40.16
Average Service	10.63
Total	
Number	6,057
Annual Payroll*	\$ 219,398,000
Average Monthly Salary	\$ 3,019
Average Age	43.06
Average Service	9.93

*Represents the annualization of active members' pay rates on June 30.

SUMMARY OF INACTIVE MEMBERSHIP	
	June 30, 1998
General	
Number	1,378
Safety	
Number	104
Total	
Number	1,482

SUMMARY OF RETIRED MEMBERSHIP	
	June 30, 1998
General	
Number	2,746
Annual Allowance	\$ 34,042,000
Average Monthly Allowance	\$ 1,033
Safety	
Number	298
Annual Allowance	\$ 5,899,000
Average Monthly Allowance	\$ 1,650
Total	
Number	3,044
Annual Allowance	\$ 39,941,000
Average Monthly Allowance	\$ 1,093

A summary of the results of our study is presented in the next section. These results are based upon the current actuarial assumptions, which are summarized in the Appendix of this report.

SECTION II: SUMMARY OF RESULTS

Below we show the costs associated with the adoption of a 4% COLA provision.

MEMBER CONTRIBUTION RATES

The employee portion of the cost-of-living provision is expressed as a percentage of the employees' normal contribution rates. The current cost of living percentage, before transfers, is 55.45%. This percentage will increase to 83.99% if the 4% COLA provision is adopted. A summary of the average basic and cost of living employee contribution rates based on the current 3% and proposed 4% COLA provisions is provided below. Rates at sample ages are also shown.

AVERAGE MEMBER BASIC AND COST OF LIVING CONTRIBUTION RATES - Before Transfers		
	General	Safety
Current 3% COLA Rates	4.82%	5.75%
Proposed 4% COLA Rates	5.71%	6.80%
Additional Rates	0.89%	1.05%

SAMPLE GENERAL MEMBER CONTRIBUTION RATES* Before Transfers			
Entry Age	3% COLA	4% COLA	Additional
25	4.57%	5.41%	0.84%
35	5.27%	6.24%	0.97%
59	7.49%	8.87%	1.38%

* These are half rates payable by the member. Contribution rates for the first \$350.00 of monthly salary are one-third lower for members covered by Social Security.

SAMPLE SAFETY MEMBER CONTRIBUTION RATES* Before Transfers			
Entry Age	3% COLA	4% COLA	Additional
25	5.81%	6.88%	1.07%
35	6.64%	7.86%	1.22%
49	8.11%	9.60%	1.49%

* These are half rates payable by the member. Contribution rates for the first \$350.00 of monthly salary are one-third lower for members covered by Social Security.

Schedule 3 in the Appendix contains the complete set of basic and cost-of-living contribution rates. The interest rate, mortality table, inflation rate, and cost-of-living benefit are indicated on the bottom of the schedules.

EMPLOYER CONTRIBUTION RATES

Below we show a comparison between the current employer contribution rates, resulting from the June 30, 1998 valuation, and the rates calculated under the 4% COLA provision. Please note that these rates do not reflect the balance of the July 1, 1997 transfer. The balance is equivalent to 6.36% of total payroll for the next three years.

TOTAL EMPLOYER CONTRIBUTION RATES		
	GENERAL	SAFETY
Current 3% COLA Rates		
Rate Net of POB Contribution	5.42%	11.17%
POB Rate	<u>8.74%</u>	<u>9.02%</u>
Total Employer Rate	14.16%	20.19%
Proposed 4% COLA Rates		
Rate Net of POB Contribution	11.49%	17.24%
POB Rate	<u>8.74%</u>	<u>9.02%</u>
Total Employer Rate	20.23%	26.26%
Additional Rates		
Rate Net of POB Contribution	6.07%	6.07%
POB Rate	<u>0.00%</u>	<u>0.00%</u>
Total Employer Rate	6.07%	6.07%

UAAL

As of the June 30, 1998 valuation date, the UAAL stood at \$(98,769,000). The adoption of the 4% COLA provision would increase the UAAL by \$118,288,000. The total new UAAL would become \$19,519,000. This would result in a GASB 25 funding ratio of 98.8%, which is below the current ratio of 106.4%.

SECTION III - APPENDIX

SCHEDULE 1

SUMMARY OF ACTUARIAL ASSUMPTIONS

The Entry Age Normal Actuarial Cost Method was used in conjunction with the following actuarial assumptions. The UAAL is being funded over 12 years from the June 30, 1998 valuation date.

- | | |
|--|--|
| 1. Interest: | 8.25% per annum. |
| 2. Interest Credited to Employee Accounts: | 8.25% per annum. |
| 3. Inflation: | 4.75% per annum. |
| 4. Salary Scale: | See Schedule 6. |
| 5. Asset Valuation: | Smoothed market value. |
| 6. Spouses and Dependents: | 90% of male employees and 50% of female employees assumed married at retirement, with wives assumed three years younger than husbands. |
| 7. Rates of Termination of Employment: | See Schedule 4. |
| 8. Years of Life Expectancy After Retirement: | See Schedule 5. |
| 9. Years of Life Expectancy After Disability: | See Schedule 5. |
| 10. Life Expectancy After Retirement for Employee Contribution Rate Purposes | |
| - General Members: | 1983 Group Annuity Table for Males, set back four years. |
| - Safety Members: | 1983 Group Annuity Table for Males set back one year. |
| 11. Reciprocity Assumption: | 50% of members who terminate with a vested benefit are assumed to enter a reciprocal system. |
| 12. Deferral Age for Vested Terminations: | 63 for General members; 55 for Safety. |
| 13. Sex: | All Safety members are assumed to be male. |

SCHEDULE 2
SUMMARY OF MAJOR PLAN PROVISIONS

1. ELIGIBILITY

First of month following date of employment.

2. DEFINITION OF SALARY

Highest 12 consecutive months of compensation earnable.

3. SERVICE RETIREMENT

- Normal retirement age - 57 and 50 for Section 31676.12 and Section 31664, respectively.
- Early retirement

Age 50 and 10 years, or any age with 30 years for General, and any age with 20 years for Safety.

- Benefit
1/50 times final average salary per year of service.
- Benefit Adjustments

Reduced for retirement before 57 and 50 for Section 31676.12 and Section 31664, respectively.

Increased for retirement after 57 and 50 for Section 31676.12 and Section 31664, respectively.

4. DISABILITY RETIREMENT

- Non-service connected

1.8% of final average salary per year of service, with a maximum of 33-1/3% if projected service is used (age 62 for General, age 55 for Safety), or 90% of the accrued service retirement benefit without a benefit adjustment, or service retirement benefit (if eligible).

- Service-connected

Greater of 50% of final average salary or service retirement benefit (if eligible).

5. DEATH BEFORE RETIREMENT

- Refund of contributions plus 1/12 of salary per year of service up to 6 years.
- If eligible for disability or service retirement
 - 60% of member's accrued allowance.
- If service-connected
 - 50% of salary.

6. DEATH AFTER RETIREMENT

- Service retirement or ordinary disability
 - 60% of member's allowance payable to an eligible spouse.
- Service disability
 - 100% of member's allowance payable to an eligible spouse.

7. VESTING

- After five years of service.
- Must leave contributions on deposit.

8. MEMBERS' CONTRIBUTIONS

- Based on entry age.

9. COST-OF-LIVING

- Currently, an "automatic" 3% COLA for all members.
- Proposed automatic 4% COLA for all members.

SCHEDULE 3

GENERAL MEMBERS' CONTRIBUTION RATES (expressed as a percentage of monthly compensation)

Rates with 3% COLA - Before Transfer

Entry Age	BASIC		COL		Entry Age	BASIC		COL	
	First \$350.00	Over \$350.00	First \$350.00	Over \$350.00		First \$350.00	Over \$350.00	First \$350.00	Over \$350.00
16	1.85%	2.77%	1.03%	1.54%	38	2.37%	3.55%	1.31	1.97%
17	1.85	2.78	1.03	1.54	39	2.40	3.60	1.33	2.00
18	1.86	2.79	1.03	1.55	40	2.44	3.66	1.35	2.03
19	1.87	2.80	1.03	1.55	41	2.47	3.71	1.37	2.06
20	1.88	2.82	1.04	1.56	42	2.51	3.77	1.39	2.09
21	1.89	2.84	1.05	1.57	43	2.55	3.83	1.41	2.12
22	1.91	2.86	1.06	1.59	44	2.59	3.88	1.43	2.15
23	1.92	2.88	1.07	1.60	45	2.63	3.94	1.45	2.18
24	1.94	2.91	1.07	1.61	46	2.67	4.00	1.48	2.22
25	1.96	2.94	1.09	1.63	47	2.71	4.06	1.50	2.25
26	1.99	2.98	1.10	1.65	48	2.75	4.12	1.52	2.28
27	2.01	3.01	1.11	1.67	49	2.79	4.18	1.55	2.32
28	2.03	3.05	1.13	1.69	50	2.83	4.24	1.57	2.35
29	2.06	3.09	1.14	1.71	51	2.87	4.31	1.59	2.39
30	2.09	3.14	1.16	1.74	52	2.91	4.37	1.61	2.42
31	2.12	3.18	1.17	1.76	53	2.95	4.43	1.64	2.46
32	2.15	3.23	1.19	1.79	54	2.99	4.49	1.66	2.49
33	2.19	3.28	1.21	1.82	55	3.04	4.56	1.69	2.53
34	2.22	3.33	1.23	1.85	56	3.08	4.62	1.71	2.56
35	2.26	3.39	1.25	1.88	57	3.13	4.69	1.73	2.60
36	2.29	3.44	1.27	1.91	58	3.17	4.76	1.76	2.64
37	2.33	3.49	1.29	1.94	59 / +	3.21	4.82	1.78	2.67
INTEREST:		8.25%							
INFLATION:		4.75%							
COLA:		3.00%							
MORTALITY:		83 GA (Male, -4)							

SCHEDULE 3

SAFETY MEMBERS' CONTRIBUTION RATES (expressed as a percentage of monthly compensation)

Rates with 3% COLA - Before Transfer

Entry Age	BASIC		COL		Entry Age	BASIC		COL	
	First \$350.00	Over \$350.00	First \$350.00	Over \$350.00		First \$350.00	Over \$350.00	First \$350.00	Over \$350.00
18	2.32%	3.48%	1.29%	1.93%	34	2.81%	4.21%	1.55%	2.33%
19	2.34	3.51	1.30	1.95	35	2.85	4.27	1.58	2.37
20	2.36	3.54	1.31	1.96	36	2.89	4.33	1.60	2.40
21	2.39	3.58	1.33	1.99	37	2.93	4.40	1.63	2.44
22	2.41	3.62	1.34	2.01	38	2.97	4.46	1.65	2.47
23	2.44	3.66	1.35	2.03	39	3.02	4.53	1.67	2.51
24	2.47	3.70	1.37	2.05	40	3.07	4.60	1.70	2.55
25	2.49	3.74	1.38	2.07	41	3.11	4.66	1.72	2.58
26	2.53	3.79	1.40	2.10	42	3.15	4.73	1.75	2.62
27	2.56	3.84	1.42	2.13	43	3.20	4.80	1.77	2.66
28	2.59	3.88	1.43	2.15	44	3.25	4.87	1.80	2.70
29	2.62	3.93	1.45	2.18	45	3.29	4.94	1.83	2.74
30	2.66	3.99	1.47	2.21	46	3.34	5.01	1.85	2.78
31	2.69	4.04	1.49	2.24	47	3.39	5.08	1.88	2.82
32	2.73	4.10	1.51	2.27	48	3.43	5.15	1.91	2.86
33	2.77	4.15	1.53	2.30	49 / +	3.48	5.22	1.93	2.89
INTEREST:		8.25%							
INFLATION:		4.75%							
COLA:		3.00%							
MORTALITY:		83 GA (Male, -1)							

SCHEDULE 3

GENERAL MEMBERS' CONTRIBUTION RATES

(expressed as a percentage of monthly compensation)

Rates with 4% COLA - Before Transfer

Entry Age	BASIC		COL		Entry Age	BASIC		COL	
	First \$350.00	Over \$350.00	First \$350.00	Over \$350.00		First \$350.00	Over \$350.00	First \$350.00	Over \$350.00
16	1.85%	2.77%	1.55%	2.33%	38	2.37%	3.55%	1.99%	2.98%
17	1.85	2.78	1.55	2.33	39	2.40	3.60	2.01	3.02
18	1.86	2.79	1.56	2.34	40	2.44	3.66	2.05	3.07
19	1.87	2.80	1.57	2.35	41	2.47	3.71	2.08	3.12
20	1.88	2.82	1.58	2.37	42	2.51	3.77	2.11	3.17
21	1.89	2.84	1.59	2.39	43	2.55	3.83	2.15	3.22
22	1.91	2.86	1.60	2.40	44	2.59	3.88	2.17	3.26
23	1.92	2.88	1.61	2.42	45	2.63	3.94	2.21	3.31
24	1.94	2.91	1.63	2.44	46	2.67	4.00	2.24	3.36
25	1.96	2.94	1.65	2.47	47	2.71	4.06	2.27	3.41
26	1.99	2.98	1.67	2.50	48	2.75	4.12	2.31	3.46
27	2.01	3.01	1.69	2.53	49	2.79	4.18	2.34	3.51
28	2.03	3.05	1.71	2.56	50	2.83	4.24	2.37	3.56
29	2.06	3.09	1.73	2.60	51	2.87	4.31	2.41	3.62
30	2.09	3.14	1.76	2.64	52	2.91	4.37	2.45	3.67
31	2.12	3.18	1.78	2.67	53	2.95	4.43	2.48	3.72
32	2.15	3.23	1.81	2.71	54	2.99	4.49	2.51	3.77
33	2.19	3.28	1.83	2.75	55	3.04	4.56	2.55	3.83
34	2.22	3.33	1.87	2.80	56	3.08	4.62	2.59	3.88
35	2.26	3.39	1.90	2.85	57	3.13	4.69	2.63	3.94
36	2.29	3.44	1.93	2.89	58	3.17	4.76	2.67	4.00
37	2.33	3.49	1.95	2.93	59 / +	3.21	4.82	2.70	4.05
INTEREST: 8.25%									
INFLATION: 4.75%									
COLA: 4.00%									
MORTALITY: 83 GA (Male, -4)									

SCHEDULE 3

SAFETY MEMBERS' CONTRIBUTION RATES (expressed as a percentage of monthly compensation)

Rates with 4% COLA - Before Transfer

Entry Age	BASIC		COL		Entry Age	BASIC		COL	
	First \$350.00	Over \$350.00	First \$350.00	Over \$350.00		First \$350.00	Over \$350.00	First \$350.00	Over \$350.00
18	2.32%	3.48%	1.95%	2.92%	34	2.81%	4.21%	2.36%	3.54%
19	2.34	3.51	1.97	2.95	35	2.85	4.27	2.39	3.59
20	2.36	3.54	1.98	2.97	36	2.89	4.33	2.43	3.64
21	2.39	3.58	2.01	3.01	37	2.93	4.40	2.47	3.70
22	2.41	3.62	2.03	3.04	38	2.97	4.46	2.50	3.75
23	2.44	3.66	2.05	3.07	39	3.02	4.53	2.53	3.80
24	2.47	3.70	2.07	3.11	40	3.07	4.60	2.57	3.86
25	2.49	3.74	2.09	3.14	41	3.11	4.66	2.61	3.91
26	2.53	3.79	2.12	3.18	42	3.15	4.73	2.65	3.97
27	2.56	3.84	2.15	3.23	43	3.20	4.80	2.69	4.03
28	2.59	3.88	2.17	3.26	44	3.25	4.87	2.73	4.09
29	2.62	3.93	2.20	3.30	45	3.29	4.94	2.77	4.15
30	2.66	3.99	2.23	3.35	46	3.34	5.01	2.81	4.21
31	2.69	4.04	2.26	3.39	47	3.39	5.08	2.85	4.27
32	2.73	4.10	2.29	3.44	48	3.43	5.15	2.89	4.33
33	2.77	4.15	2.33	3.49	49 /+	3.48	5.22	2.92	4.38
INTEREST: 8.25%									
INFLATION: 4.75%									
COLA: 4.00%									
MORTALITY: 83 GA (Male, -1)									

SCHEDULE 4

PROBABILITIES OF SEPARATION FROM ACTIVE SERVICE

The following pages indicate the probability of separation from active service for each of eight separate sources of termination:

- *Withdrawal:* member terminates and elects refund of member contributions.
- *Vested termination:* member terminates and contributions are left on deposit.
- *Ordinary death:* member dies prior to eligibility for retirement; death not employment-related.
- *Ordinary disability:* member receives disability retirement; disability not employment-related.
- *Service retirement:* member retires after satisfaction of requirements of age and/or service for reasons other than disability.
- *Duty disability:* member receives disability retirement; disability is employment-related.
- *Duty death:* member dies prior to retirement; death is employment-related.
- *Death while eligible:* member dies prior to retirement but after satisfaction of age and/or service requirements for service retirement or ordinary disability.

The probabilities shown for each cause of termination represent the probability that a given member will terminate at a particular age for the indicated reason. For example, if the probability of withdrawal at age 25 is .1550, then we are assuming that 15.50% of the active members at age 25 will terminate without vested rights during the next year.

SCHEDULE 4
PROBABILITIES OF SEPARATION FROM ACTIVE SERVICE

GENERAL MEMBERS -- MALES

Age	Withdrawal	Ordinary Death	Ordinary Disability	Service	Death While Eligible	Duty Death	Duty Disability	Terminated Vested
20	0.15500	0.00020	0.00000	0.00000	0.00000	0.00010	0.00005	0.00045
21	0.15500	0.00020	0.00000	0.00000	0.00000	0.00010	0.00005	0.00045
22	0.15500	0.00020	0.00000	0.00000	0.00000	0.00010	0.00005	0.00090
23	0.15000	0.00020	0.00000	0.00000	0.00000	0.00010	0.00005	0.00135
24	0.15000	0.00020	0.00000	0.00000	0.00000	0.00010	0.00005	0.00180
25	0.15000	0.00030	0.00007	0.00000	0.00013	0.00010	0.00010	0.00225
26	0.15000	0.00030	0.00007	0.00000	0.00013	0.00010	0.00010	0.00270
27	0.14500	0.00030	0.00007	0.00000	0.00013	0.00010	0.00010	0.00360
28	0.14500	0.00030	0.00007	0.00000	0.00013	0.00010	0.00010	0.00450
29	0.14000	0.00030	0.00007	0.00000	0.00013	0.00010	0.00010	0.00540
30	0.13000	0.00040	0.00007	0.00000	0.00013	0.00010	0.00010	0.00630
31	0.11500	0.00040	0.00007	0.00000	0.00013	0.00010	0.00010	0.00720
32	0.10000	0.00040	0.00007	0.00000	0.00013	0.00010	0.00010	0.00810
33	0.08000	0.00040	0.00014	0.00000	0.00026	0.00010	0.00010	0.00900
34	0.07000	0.00040	0.00014	0.00000	0.00026	0.00010	0.00010	0.01080
35	0.06000	0.00050	0.00014	0.00000	0.00026	0.00010	0.00015	0.01350
36	0.05500	0.00050	0.00014	0.00000	0.00026	0.00010	0.00015	0.01575
37	0.05000	0.00050	0.00021	0.00000	0.00026	0.00010	0.00015	0.01710
38	0.04600	0.00050	0.00021	0.00000	0.00026	0.00010	0.00015	0.01935
39	0.04200	0.00060	0.00028	0.00006	0.00026	0.00010	0.00015	0.02025
40	0.03900	0.00060	0.00035	0.00000	0.00039	0.00010	0.00020	0.02070
41	0.03600	0.00060	0.00042	0.00000	0.00039	0.00010	0.00020	0.02070
42	0.03300	0.00070	0.00049	0.00000	0.00039	0.00010	0.00020	0.02070
43	0.03000	0.00070	0.00056	0.00000	0.00052	0.00010	0.00025	0.01980
44	0.02700	0.00080	0.00063	0.00000	0.00052	0.00010	0.00025	0.01890
45	0.02300	0.00080	0.00077	0.00000	0.00065	0.00010	0.00030	0.01800
46	0.01900	0.00090	0.00091	0.00000	0.00065	0.00010	0.00035	0.01710
47	0.01500	0.00100	0.00105	0.00000	0.00078	0.00010	0.00040	0.01620
48	0.01200	0.00110	0.00119	0.00000	0.00078	0.00010	0.00045	0.01440
49	0.01000	0.00120	0.00133	0.00000	0.00091	0.00010	0.00050	0.01260
50	0.01000	0.00130	0.00147	0.03500	0.00104	0.00010	0.00055	0.01080
51	0.01000	0.00140	0.00161	0.02700	0.00117	0.00010	0.00065	0.00900
52	0.01000	0.00150	0.00182	0.02000	0.00130	0.00020	0.00075	0.00720
53	0.01000	0.00160	0.00203	0.02000	0.00143	0.00020	0.00085	0.00630
54	0.01000	0.00170	0.00224	0.04000	0.00156	0.00020	0.00095	0.00585
55	0.01000	0.00180	0.00245	0.05500	0.00169	0.00020	0.00105	0.00585
56	0.01000	0.00190	0.00266	0.06300	0.00182	0.00020	0.00115	0.00585
57	0.01000	0.00200	0.00280	0.07600	0.00195	0.00020	0.00125	0.00585
58	0.01000	0.00210	0.00294	0.09000	0.00208	0.00020	0.00135	0.00585
59	0.01000	0.00220	0.00301	0.13000	0.00221	0.00030	0.00145	0.00585
60	0.01000	0.00240	0.00308	0.15000	0.00234	0.00030	0.00155	0.00540
61	0.01000	0.00260	0.00315	0.18000	0.00247	0.00030	0.00160	0.00450
62	0.01000	0.00280	0.00322	0.40000	0.00260	0.00030	0.00165	0.00360
63	0.01000	0.00300	0.00329	0.24000	0.00286	0.00030	0.00170	0.00270
64	0.01000	0.00320	0.00336	0.25000	0.00312	0.00040	0.00175	0.00180
65	0.00000	0.00340	0.00000	0.35000	0.00351	0.00040	0.00000	0.00000
66	0.00000	0.00360	0.00000	0.35000	0.00390	0.00040	0.00000	0.00000
67	0.00000	0.00380	0.00000	0.35000	0.00442	0.00040	0.00000	0.00000
68	0.00000	0.00400	0.00000	0.45000	0.00507	0.00040	0.00000	0.00000
69	0.00000	0.00420	0.00000	0.60000	0.00585	0.00040	0.00000	0.00000
70	0.00000	0.00000	0.00000	1.00000	0.00000	0.00000	0.00000	0.00000

SCHEDULE 4
PROBABILITIES OF SEPARATION FROM ACTIVE SERVICE

GENERAL MEMBERS -- FEMALES

Age	Withdrawal	Ordinary Death	Ordinary Disability	Service	Death While Eligible	Duty Death	Duty Disability	Terminated Vested
20	0.16500	0.00010	0.00000	0.00000	0.00000	0.00000	0.00010	0.00270
21	0.16500	0.00010	0.00000	0.00000	0.00000	0.00000	0.00010	0.00270
22	0.16000	0.00010	0.00000	0.00000	0.00000	0.00000	0.00010	0.00270
23	0.15500	0.00010	0.00000	0.00000	0.00000	0.00000	0.00010	0.00270
24	0.15500	0.00010	0.00000	0.00000	0.00000	0.00000	0.00010	0.00450
25	0.15500	0.00020	0.00010	0.00000	0.00008	0.00000	0.00010	0.00450
26	0.15500	0.00020	0.00010	0.00000	0.00008	0.00000	0.00010	0.00450
27	0.15000	0.00020	0.00010	0.00000	0.00008	0.00000	0.00010	0.00450
28	0.15000	0.00020	0.00010	0.00000	0.00008	0.00000	0.00010	0.00450
29	0.14500	0.00030	0.00010	0.00000	0.00008	0.00000	0.00020	0.00450
30	0.13500	0.00030	0.00010	0.00000	0.00008	0.00000	0.00020	0.00450
31	0.12000	0.00030	0.00010	0.00000	0.00008	0.00000	0.00020	0.00450
32	0.10000	0.00030	0.00010	0.00000	0.00008	0.00000	0.00020	0.00450
33	0.08500	0.00040	0.00010	0.00000	0.00008	0.00000	0.00020	0.00450
34	0.07000	0.00040	0.00010	0.00000	0.00008	0.00000	0.00020	0.00900
35	0.06500	0.00040	0.00020	0.00000	0.00008	0.00000	0.00020	0.01620
36	0.06000	0.00050	0.00020	0.00000	0.00008	0.00000	0.00020	0.01980
37	0.05500	0.00050	0.00020	0.00000	0.00008	0.00000	0.00020	0.01980
38	0.05000	0.00050	0.00030	0.00000	0.00008	0.00000	0.00020	0.01800
39	0.05000	0.00050	0.00030	0.00000	0.00008	0.00000	0.00030	0.01710
40	0.04500	0.00060	0.00030	0.00000	0.00008	0.00000	0.00030	0.01665
41	0.04300	0.00060	0.00040	0.00000	0.00008	0.00000	0.00030	0.01620
42	0.04200	0.00060	0.00040	0.00000	0.00008	0.00000	0.00030	0.01575
43	0.03800	0.00070	0.00050	0.00000	0.00008	0.00000	0.00030	0.01575
44	0.03500	0.00070	0.00050	0.00000	0.00008	0.00000	0.00030	0.01530
45	0.03200	0.00070	0.00060	0.00000	0.00015	0.00000	0.00040	0.01530
46	0.03000	0.00080	0.00070	0.00000	0.00015	0.00000	0.00040	0.01485
47	0.02900	0.00080	0.00080	0.00000	0.00015	0.00000	0.00050	0.01440
48	0.02800	0.00090	0.00090	0.00000	0.00015	0.00000	0.00050	0.01395
49	0.02700	0.00090	0.00100	0.00000	0.00022	0.00000	0.00050	0.01305
50	0.02600	0.00100	0.00110	0.04000	0.00022	0.00000	0.00060	0.01170
51	0.02500	0.00100	0.00120	0.03000	0.00022	0.00000	0.00060	0.00990
52	0.02400	0.00110	0.00130	0.03000	0.00030	0.00000	0.00070	0.00810
53	0.02300	0.00110	0.00140	0.03000	0.00030	0.00000	0.00080	0.00630
54	0.02200	0.00120	0.00150	0.03000	0.00030	0.00000	0.00090	0.00450
55	0.02100	0.00120	0.00160	0.08000	0.00030	0.00000	0.00100	0.00450
56	0.01900	0.00130	0.00170	0.03000	0.00038	0.00000	0.00110	0.00720
57	0.01700	0.00140	0.00180	0.08000	0.00038	0.00000	0.00120	0.00630
58	0.01500	0.00150	0.00190	0.10000	0.00038	0.00000	0.00130	0.00540
59	0.01400	0.00160	0.00210	0.12000	0.00045	0.00000	0.00140	0.00450
60	0.01300	0.00180	0.00230	0.14000	0.00045	0.00000	0.00150	0.00450
61	0.01300	0.00190	0.00250	0.10000	0.00045	0.00000	0.00170	0.00450
62	0.01300	0.00200	0.00270	0.30000	0.00052	0.00000	0.00200	0.00450
63	0.01300	0.00210	0.00290	0.12500	0.00052	0.00000	0.00220	0.00450
64	0.01300	0.00220	0.00310	0.12500	0.00052	0.00000	0.00250	0.00450
65	0.00000	0.00240	0.00000	0.45000	0.00060	0.00000	0.00000	0.00000
66	0.00000	0.00250	0.00000	0.20000	0.00060	0.00000	0.00000	0.00000
67	0.00000	0.00260	0.00000	0.30000	0.00060	0.00000	0.00000	0.00000
68	0.00000	0.00270	0.00000	0.30000	0.00068	0.00000	0.00000	0.00000
69	0.00000	0.00280	0.00000	0.30000	0.00068	0.00000	0.00000	0.00000
70	0.00000	0.00000	0.00000	1.00000	0.00000	0.00000	0.00000	0.00000

SCHEDULE 4
PROBABILITIES OF SEPARATION FROM ACTIVE SERVICE

SAFETY MEMBERS

Age	Withdrawal	Ordinary Death	Ordinary Disability	Service	Death While Eligible	Duty Death	Duty Disability	Terminated Vested
20	0.13000	0.00015	0.00000	0.00000	0.00000	0.00015	0.00060	0.00100
21	0.12000	0.00015	0.00000	0.00000	0.00000	0.00015	0.00060	0.00110
22	0.11000	0.00015	0.00000	0.00000	0.00000	0.00015	0.00060	0.00120
23	0.10000	0.00015	0.00000	0.00000	0.00000	0.00015	0.00070	0.00130
24	0.09500	0.00015	0.00000	0.00000	0.00000	0.00015	0.00070	0.00140
25	0.09000	0.00022	0.00020	0.00000	0.00008	0.00022	0.00080	0.00200
26	0.08200	0.00022	0.00020	0.00000	0.00008	0.00022	0.00090	0.00300
27	0.07400	0.00022	0.00030	0.00000	0.00015	0.00022	0.00100	0.00500
28	0.07100	0.00022	0.00030	0.00000	0.00015	0.00022	0.00110	0.01000
29	0.06800	0.00022	0.00030	0.00000	0.00015	0.00022	0.00120	0.01700
30	0.06400	0.00030	0.00030	0.00000	0.00015	0.00030	0.00130	0.02500
31	0.06000	0.00030	0.00040	0.00000	0.00015	0.00030	0.00140	0.03400
32	0.05600	0.00030	0.00040	0.00000	0.00015	0.00030	0.00160	0.03000
33	0.05100	0.00030	0.00040	0.00000	0.00015	0.00030	0.00180	0.02700
34	0.04600	0.00030	0.00050	0.00000	0.00015	0.00030	0.00210	0.02400
35	0.04100	0.00038	0.00060	0.00000	0.00015	0.00038	0.00230	0.02200
36	0.03600	0.00038	0.00060	0.00000	0.00015	0.00038	0.00250	0.02000
37	0.03100	0.00038	0.00070	0.00000	0.00015	0.00038	0.00280	0.01800
38	0.02800	0.00038	0.00080	0.00000	0.00015	0.00038	0.00310	0.01600
39	0.02500	0.00038	0.00090	0.00000	0.00015	0.00038	0.00350	0.01400
40	0.02200	0.00045	0.00100	0.00000	0.00022	0.00045	0.00390	0.01200
41	0.01900	0.00045	0.00100	0.00000	0.00022	0.00045	0.00430	0.01000
42	0.01500	0.00045	0.00110	0.00000	0.00022	0.00045	0.00470	0.00800
43	0.01200	0.00052	0.00120	0.00000	0.00022	0.00052	0.00520	0.00600
44	0.01000	0.00052	0.00120	0.00000	0.00022	0.00052	0.00580	0.00400
45	0.00900	0.00060	0.00130	0.02000	0.00030	0.00060	0.00640	0.00300
46	0.00800	0.00060	0.00140	0.02000	0.00030	0.00060	0.00710	0.00200
47	0.00700	0.00068	0.00140	0.02000	0.00038	0.00068	0.00790	0.00100
48	0.00600	0.00068	0.00150	0.02000	0.00045	0.00068	0.00880	0.00080
49	0.00500	0.00075	0.00160	0.02500	0.00052	0.00075	0.00970	0.00050
50	0.00500	0.00075	0.00160	0.03000	0.00060	0.00075	0.01060	0.00000
51	0.00400	0.00082	0.00170	0.03000	0.00068	0.00082	0.01150	0.00000
52	0.00400	0.00082	0.00180	0.05000	0.00075	0.00090	0.01250	0.00000
53	0.00300	0.00090	0.00190	0.07000	0.00082	0.00097	0.01350	0.00000
54	0.00000	0.00090	0.00200	0.09000	0.00090	0.00097	0.01450	0.00000
55	0.00000	0.00097	0.00200	0.15000	0.00097	0.00105	0.01550	0.00000
56	0.00000	0.00097	0.00210	0.10000	0.00105	0.00112	0.01650	0.00000
57	0.00000	0.00105	0.00220	0.10000	0.00112	0.00120	0.01750	0.00000
58	0.00000	0.00105	0.00220	0.25000	0.00120	0.00127	0.01850	0.00000
59	0.00000	0.00112	0.00230	0.30000	0.00127	0.00135	0.01950	0.00000
60	0.00000	0.00000	0.00000	1.00000	0.00000	0.00000	0.00000	0.00000

SCHEDULE 5

YEARS OF LIFE EXPECTANCY AFTER SERVICE RETIREMENT

Age	General			Age	General		
	Male	Female	Safety		Male	Female	Safety
50	29.18	34.92	30.08	81	7.21	9.63	7.64
51	28.30	33.97	29.18	82	6.81	9.09	7.21
52	27.42	33.03	28.30	83	6.43	8.57	6.81
53	26.55	32.10	27.42	84	6.07	8.07	6.43
54	25.68	31.16	26.55	85	5.73	7.58	6.07
55	24.83	30.23	25.68	86	5.41	7.11	5.73
56	23.98	29.31	24.83	87	5.10	6.66	5.41
57	23.13	28.39	23.98	88	4.82	6.23	5.10
58	22.29	27.48	23.13	89	4.54	5.81	4.82
59	21.46	26.57	22.29	90	4.28	5.41	4.54
60	20.64	25.67	21.46	91	4.04	5.02	4.28
61	19.83	24.78	20.64	92	3.80	4.66	4.04
62	19.02	23.89	19.83	93	3.58	4.31	3.80
63	18.23	23.02	19.02	94	3.37	3.98	3.58
64	17.45	22.15	18.23	95	3.16	3.67	3.37
65	16.69	21.29	17.45	96	2.98	3.37	3.16
66	15.95	20.43	16.69	97	2.80	3.10	2.98
67	15.23	19.59	15.95	98	2.62	2.84	2.80
68	14.52	18.76	15.23	99	2.45	2.60	2.62
69	13.84	17.94	14.52	100	2.28	2.36	2.45
70	13.18	17.13	13.84	101	2.11	2.14	2.28
71	12.54	16.34	13.18	102	1.95	1.94	2.11
72	11.92	15.57	12.54	103	1.78	1.74	1.95
73	11.31	14.81	11.92	104	1.61	1.55	1.78
74	10.72	14.08	11.31	105	1.43	1.37	1.61
75	10.15	13.38	10.72	106	1.26	1.19	1.43
76	9.60	12.69	10.15	107	1.09	1.03	1.26
77	9.08	12.03	9.60	108	.92	.87	1.09
78	8.57	11.40	9.08	109	.74	.71	.92
79	8.10	10.79	8.57	110	.50	.50	.74
80	7.64	10.20	8.10	111	--	--	--

1983 GA (x, y) for General Members

1983 GA (x - 1) for Safety Members

SCHEDULE 5

YEARS OF LIFE EXPECTANCY AFTER DISABILITY RETIREMENT

GENERAL MEMBERS

Age	Years of Life Expectancy	Age	Years of Life Expectancy	Age	Years of Life Expectancy
20	38.73	51	20.59	82	6.27
21	37.98	52	20.11	83	5.94
22	37.26	53	19.63	84	5.63
23	36.56	54	19.16	85	5.34
24	35.87	55	18.68	86	5.06
25	35.19	56	18.22	87	4.80
26	34.53	57	17.75	88	4.55
27	33.87	58	17.29	89	4.31
28	33.23	59	16.83	90	4.09
29	32.60	60	16.37	91	3.87
30	31.98	61	15.91	92	3.66
31	31.37	62	15.45	93	3.46
32	30.76	63	14.99	94	3.26
33	30.17	64	14.53	95	3.07
34	29.58	65	14.07	96	2.89
35	29.00	66	13.60	97	2.71
36	28.43	67	13.13	98	2.54
37	27.87	68	12.66	99	2.37
38	27.31	69	12.18	100	2.20
39	26.76	70	11.70	101	2.04
40	26.21	71	11.21	102	1.88
41	25.67	72	10.72	103	1.72
42	25.14	73	10.22	104	1.55
43	24.61	74	9.73	105	1.38
44	24.09	75	9.24	106	1.21
45	23.57	76	8.76	107	1.04
46	23.06	77	8.28	108	.88
47	22.56	78	7.83	109	.72
48	22.06	79	7.41	110	.50
49	21.57	80	7.00		
50	21.08	81	6.63		

1981 Disability (General)

SCHEDULE 5

YEARS OF LIFE EXPECTANCY AFTER DISABILITY RETIREMENT

SAFETY MEMBERS

Age	Years of Life Expectancy	Age	Years of Life Expectancy	Age	Years of Life Expectancy
20	49.29	51	22.80	81	6.63
21	48.39	52	22.03	82	6.27
22	47.48	53	21.26	83	5.94
23	46.58	54	20.50	84	5.63
24	45.68	55	19.77	85	5.34
25	44.79	56	19.06	86	5.06
26	43.89	57	18.40	87	4.80
27	43.01	58	17.78	88	4.55
28	42.12	59	17.20	89	4.31
29	41.24	60	16.64	90	4.09
30	40.36	61	16.11	91	3.87
31	39.48	62	15.59	92	3.66
32	38.61	63	15.08	93	3.46
33	37.74	64	14.58	94	3.26
34	36.88	65	14.09	95	3.07
35	36.02	66	13.61	96	2.89
36	35.16	67	13.13	97	2.71
37	34.31	68	12.66	98	2.54
38	33.46	69	12.18	99	2.37
39	32.61	70	11.70	100	2.20
40	31.77	71	11.21	101	2.04
41	30.93	72	10.72	102	1.88
42	30.09	73	10.22	103	1.72
43	29.26	74	9.73	104	1.55
44	28.43	75	9.24	105	1.38
45	27.61	76	8.75	106	1.21
46	26.80	77	8.28	107	1.04
47	25.99	78	7.83	108	.88
48	25.18	79	7.41	109	.72
49	24.38	80	7.00	110	.50
50	23.59				

1981 Disability (Safety)

SCHEDULE 6
RATIO OF CURRENT COMPENSATION
TO COMPENSATION ANTICIPATED AT RETIREMENT

Age	GENERAL	SAFETY	Age	GENERAL	SAFETY
20	.055	.108	46	.291	.487
21	.061	.117	47	.306	.513
22	.067	.125	48	.322	.539
23	.074	.134	49	.338	.568
24	.080	.143	50	.357	.597
25	.087	.153	51	.376	.629
26	.094	.162	52	.395	.662
27	.101	.173	53	.416	.697
28	.109	.183	54	.438	.734
29	.117	.195	55	.462	.773
30	.124	.207	56	.486	.814
31	.133	.219	57	.512	.858
32	.141	.232	58	.539	.902
33	.149	.246	59	.568	.950
34	.157	.260	60	.597	1.000
35	.165	.275	61	.628	
36	.173	.290	62	.662	
37	.183	.306	63	.697	
38	.193	.322	64	.734	
39	.203	.339	65	.773	
40	.213	.357	66	.814	
41	.225	.376	67	.857	
42	.237	.396	68	.902	
43	.249	.417	69	.950	
44	.262	.439	70	1.000	
45	.276	.461			

Note: Salary scale assumption reflects 4.75% for inflation and graded merit and longevity.