

REPORT ON THE EXPERIENCE STUDY
FOR THE PERIOD
JANUARY 1, 2001 THROUGH
JUNE 30, 2003

SANTA BARBARA COUNTY
EMPLOYEES' RETIREMENT SYSTEM

September 10, 2003

Board of Retirement
Santa Barbara County
Employees' Retirement System
County Administration Building, Room 301
105 East Anapamu Street
Santa Barbara, CA 93101

Members of the Board:

We are pleased to present our report on the experience analysis of your Retirement System for the period from January 1, 2001 through June 30, 2003.

We hereby certify that the experience was performed in accordance with generally accepted actuarial principles and practices.

We look forward to discussing this report with the Board and wish to express our appreciation for the invaluable cooperation extended to us by the Retirement Staff during the course of this study.

Respectfully submitted,

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SECTION I: EXECUTIVE SUMMARY

We were commissioned by the Board to perform an experience study of the Retirement System as of June 30, 2003, using the statistical information available for the active, inactive and retired membership.

The results presented herein are based upon the audited data supplied by the Retirement Office and the benefits for General Plans 5A, 2, 5B, and Safety Plans 4A and 4B, and Air Pollution Control District (APCD) Plans 1 and 2 members under Sections 31676.12, 31486.4, 31676.12, 31664.2, and 31676.15, respectively, of the County Employees Retirement Law of 1937.

A brief summary of the results of our valuation is presented below. More comprehensive information on each topic is presented in the relevant section of the report.

Section II - Statistical Highlights

This section shows a summary of the inactive, retired and active membership data used for the experience analysis.

Section III - Summary of Actuarial Assumptions

Noneconomic Assumptions

We have examined the plan experience during the two and one-half year period from January 1, 2001 through June 30, 2003. We analyzed data for this period regarding service retirement, deaths, disabilities and terminations of employment and compared the number of actual terminations to the incidence expected using the current actuarial assumptions. Where the results differ materially, and the change points to a developing trend, we recommend modifying the assumptions. The summary of our findings and recommendations are incorporated in the body of this report.

Economic Assumptions

In order to ensure that the same inflationary expectations are consistently included in all of the economic assumptions, we used a building block approach in developing the economic assumptions. That is, we assumed that the investment return earned over the long term is comprised of inflation and real rate of return and we assumed that future salary increases are comprised of inflation and merit and longevity increases.

The summary of our findings and recommendations are incorporated in the body of this report.

Section IV - Appendix

Detailed information on the current and recommended actuarial assumptions is shown in Section IV.

SECTION II: STATISTICAL HIGHLIGHTS

Our June 30, 2003 experience study of your System was based on the following data that was collected for the December 31, 2000, December 31, 2002 and June 30, 2003 actuarial valuations.

SUMMARY OF INACTIVE MEMBERSHIP			
	December 31, 2000	December 31, 2002	June 30, 2003
TOTAL	577	652	660
Number*			

* Excludes pending withdrawals.

SUMMARY OF RETIRED MEMBERSHIP			
	December 31, 2000	December 31, 2002	June 30, 2003
TOTAL	2,098	2,275	2,345
Number			
Basic Annual Allowance	\$26,420,000	\$33,416,000	\$36,770,000
Average Basic Monthly Allowance	\$1,049	\$1,224	\$1,307
Total Annual Allowance	\$33,468,000	\$42,771,000	\$47,280,000
Average Total Monthly Allowance	\$1,329	\$1,567	\$1,680
Average Age	69.95	70.02	70.26

SUMMARY OF ACTIVE MEMBERSHIP			
	December 31, 2000	December 31, 2002	June 30, 2003
TOTAL	4,515	4,620	4,573
Number			
Annual Payroll †	\$219,739,000	\$251,834,000	\$257,237,000
Average Monthly Salary	\$4,056	\$4,542	\$4,688
Average Age	43.28	43.77	43.91
Average Service	9.23	9.66	9.70

† Represents the annualization of active members' pay rates on each valuation date.

* Represents the annualization of active members' pay rates on each valuation date.

SUMMARY OF ACTIVE MEMBERSHIP			
	December 31, 2000	December 31, 2002	June 30, 2003
GENERAL PLAN 5A	1,800	1,609	1,554
Annual Payroll*	\$91,883,000	\$91,806,000	\$90,825,000
Average Monthly Salary	\$4,254	\$4,755	\$4,870
Average Age	47.87	49.18	49.32
Average Service	13.75	15.55	15.90
Number	69	41	38
Annual Payroll*	\$2,974,000	\$1,973,000	\$1,886,000
Average Monthly Salary	\$3,592	\$4,010	\$4,135
Average Age	47.10	47.98	48.61
Average Service	11.20	13.32	13.59
Number	1,640	1,950	1,970
Annual Payroll*	\$68,302,000	\$91,918,000	\$96,563,000
Average Monthly Salary	\$3,471	\$3,928	\$4,085
Average Age	39.14	40.23	40.72
Average Service	2.69	3.68	3.84
Number	493	443	421
Annual Payroll*	\$30,532,000	\$32,761,000	\$32,591,000
Average Monthly Salary	\$5,161	\$6,163	\$6,451
Average Age	44.60	45.50	45.50
Average Service	16.81	17.74	17.68
Number	452	518	529
Annual Payroll*	\$22,565,000	\$29,702,000	\$31,544,000
Average Monthly Salary	\$4,160	\$4,778	\$4,969
Average Age	37.47	38.03	37.90
Average Service	6.37	6.49	6.50
Number	46	42	42
Annual Payroll*	\$2,876,000	\$2,842,000	\$2,873,000
Average Monthly Salary	\$5,210	\$5,639	\$5,700
Average Age	47.02	48.79	49.19
Average Service	12.37	14.31	15.09
Number	15	17	19
Annual Payroll*	\$608,000	\$830,000	\$955,000
Average Monthly Salary	\$3,378	\$4,069	\$4,189
Average Age	46.47	44.82	43.68
Average Service	1.40	2.65	2.93

SECTION III: SUMMARY OF ACTUARIAL ASSUMPTIONS

To carry out an actuarial valuation of the assets and liabilities of your System, the actuary must first adopt assumptions with respect to each of the following items:

Noneconomic assumptions

- ◆ The probabilities of members separating from active service on account of nonvested and vested withdrawal, retirement for service, death, and disability, and
- ◆ The mortality rates to be experienced among retired persons.

Economic assumptions

- ◆ Interest earnings to be realized on the funds over many years in the future, and
- ◆ The relative increases in a member's salary from the date of the valuation to the date of separation from active service.

We discuss each of the above items in the following paragraphs of this Section.

NON-ECONOMIC ASSUMPTIONS

Rates of Separation from Active Service

In connection with the June 30, 2003 actuarial valuation, we compared the expected number of terminations from active service to the number actually experienced during the two and one-half year period beginning January 1, 2001 and ending June 30, 2003. Based on this comparison and the trends observed over the prior three and/or six years, the probabilities of separation were adjusted accordingly, as identified below.

During the experience study period, the number of deaths was lower than expected for General and Safety members. We recommend that the *death while eligible* rates be lowered for all three groups to reflect the improved mortality.

During the experience study period, the incidence of *ordinary disability* was lower than expected for General male members. We recommend that the *ordinary disability* rates be lowered for this group.

The number of actual separations due to *vested termination* was higher than the number of expected separations for General female and Safety members. We recommend increasing the *vested termination* rates to reflect the experience for these two groups.

During the experience study period, the incidence of *withdrawal* was higher than expected for General male members. We recommend that the *withdrawal* rates be increased for this group.

None of the other types of separation demonstrated a statistically significant trend when compared to the prior three- or six-year period; hence, we recommend continuing the existing assumptions for the remaining types of separation.

The purpose of the following table is to provide the reader with a shorthand summary of the experience compared with the existing assumptions. A complete list of the current and recommended rates of separation from active service can be found in Schedule 2 of the Appendix. These rates should be viewed in the aggregate rather than examining each of them separately. This is due to the interdependency of the rates. For example, if turnover were to increase, there would be fewer retirements.

“Expected separations” means the number of terminations that would occur if the currently assumed probabilities were applied to your actual work force over the period under investigation.

A complete listing of the rates of separation from active service can be found in Schedule 2 of the Appendix. These rates should be viewed in the aggregate rather than examining each of them separately. This is due to interdependency of the rates. For example, if turnover were to increase, there would be fewer retirements.

* Excludes General members older than 70 and Safety members older than 60. Based on our expectation that members were waiting to retire after new benefits were implemented, no adjustments were made to Service Retirement rates.

SUMMARY OF ACTUARIAL INVESTIGATION WITH RESPECT TO RATES OF SEPARATION FROM ACTIVE SERVICE			
	Actual Separations	Expected Separations	Revised Separations
Withdrawal	163	120.88	139.01
General Male	163	120.88	139.01
General Female	393	336.93	N/A
Safety	50	44.29	N/A
Pre-retirement Death			
General Male	4	6.14	5.44
General Female	4	6.38	5.93
Safety	1	2.70	2.46
Ordinary Disability			
General Male	1	5.03	3.77
General Female	7	8.60	N/A
Safety	0	1.17	N/A
Duty Disability			
General Male	5	5.42	N/A
General Female	4	5.80	N/A
Safety	8	8.26	N/A
Service Retirement*			
General Male	73	77.78	N/A
General Female	91	89.59	N/A
Safety	74	42.34	N/A
Deferred Retirement			
General Male	39	37.35	N/A
General Female	90	77.82	85.6
Safety	31	17.55	22.8
All Terminations	1,038	894.03	922.54

Recommendation
We recommend that the Board adopt the new rates of separation shown in Schedule 2 of the Appendix.

Mortality After Retirement

We have also analyzed mortality after retirement by comparing the expected number of deaths with the actual incidence of death after service retirement. The comparison was made by utilizing the following mortality tables currently in use:

Revised Service Retirement Mortality Tables

- ◆ General Males 1994 Group Annuity Mortality Table for Males, with no setback
- ◆ General Females 1994 Group Annuity Mortality Table for Females, set forward 1 year
- ◆ Safety Males 1994 Group Annuity Mortality Table for Males, with no setback
- ◆ Safety Females 1994 Group Annuity Mortality Table for Females, set forward 1 year

Note: No setback means that the table is used as published. When the table is set forward one year, the member's life expectancy is that of someone one year older. When the table is set back one year, the member's life expectancy is that of someone one year younger.

- ◆ General 1981 Disability Mortality Table for General Members, with no setback
- ◆ Safety 1981 Disability Mortality Table for Safety Members, with no setback

Disability Retirement Mortality Tables

Mortality After Disability Retirement
 In addition, we analyzed mortality after disability retirement. This comparison was made by utilizing the following mortality tables currently in use:

A full listing of the life expectancies based on these tables is shown in Schedule 3 of the Appendix.

Note: No setback means that the table is used as published. When the table is set forward one year, the member's life expectancy is that of someone one year older. When the table is set back one year, the member's life expectancy is that of someone one year younger.

- ◆ General Males 1994 Group Annuity Mortality Table for Males, setback 2 years
- ◆ General Females 1994 Group Annuity Mortality Table for Females, set forward 1 year
- ◆ Safety Males 1994 Group Annuity Mortality Table for Males, setback 2 years
- ◆ Safety Females 1994 Group Annuity Mortality Table for Females, set forward 1 year

Revised Service Retirement Mortality Tables

"Revised":

During the period under investigation, the number of actual deaths was lower than expected for General males and Safety members and higher than expected for General female members. Based on these results, we recommend setting the male mortality table back two years. The number of expected deaths based on the recommended mortality tables is shown in the chart above in the column labeled

NUMBER OF DEATHS AFTER SERVICE RETIREMENT			
	Actual	Expected	Revised
General Males and Male Beneficiaries	57	72.7	60.3
General Females and Female Beneficiaries	94	87.0	87.0
Safety Members	6	9.1	7.5

The results of the experience analysis are as follows:

A full listing of the life expectancies based on these tables is shown in Schedule 3 of the Appendix.

During the period under investigation, the number of actual deaths after disability retirement was higher than expected for General members and lower than expected for Safety members. These numbers were very close over the past six years for General members and based on this experience, we recommend that the current disability mortality table continue to be used for this group. We recommend that the table be set back by 2 years for Safety members to reflect the actual experience over the last two and one half years and the trends observed in other 1937 Act County Systems.

NUMBER OF DEATHS AFTER DISABILITY RETIREMENT			
	Actual	Expected	Revised
General Members	15	13.4	13.4
Safety Members	1	6.5	5.6

The results of the experience analysis are as follows:

The recommended changes to the mortality table after service retirement mentioned above will cause an increase in the employee contribution rates. These rates will be provided in our final valuation report to the Board.

ECONOMIC ASSUMPTIONS

In setting the economic assumptions, we take a building block approach. Specifically, we first look at the rate of inflation which underlies both the total rate of return and the salary scale assumptions. To aid us in determining an appropriate inflation rate for your System, we have reviewed long-term historical inflation averages, recent trends, and the assumptions adopted by other public retirement systems governed by the 1937 Act. It should be noted that we have placed more emphasis on long-term historical averages and long-term future predictions than on the more recent, short-term trends. This helps to minimize fluctuations which are more apparent in short-term trends.

Secondly, we review the anticipated real rate of return on investments. The real rate of return is dependent on the anticipated returns on classes of investments and the asset allocation of the

Inflation

One of the most important assumptions used in valuing the System's liabilities is the rate of inflation. This assumption underlies both the investment return assumption and the salary increases assumption. These in turn directly impact the employer and employee contribution rates.

If the pattern of inflation during the last 90-year period is analyzed, it may be extrapolated that the current low rates will not continue into the future indefinitely. Inflation appears to move in a cyclical fashion as may be seen in the following graph.

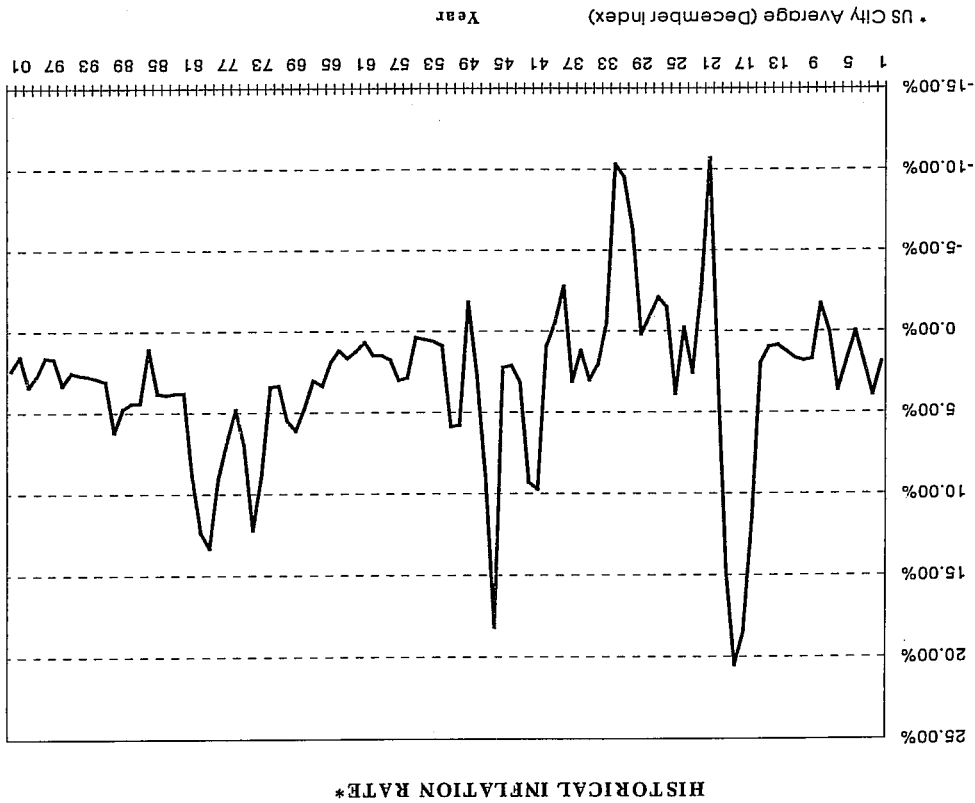
System's funds. To develop the individual real rates of return we utilize various empirical studies. By applying the results of these studies to the System's target asset allocation, we develop the real rate of return. This rate may then be adjusted for any known or anticipated changes in the economy that may occur. Using our building block approach, we combine the underlying inflation assumption with the real rate of return to develop the total rate of return assumption (interest rate assumption).

The salary scale assumption is developed in a similar manner. The inflation rate is combined with merit and longevity increases to produce a total salary scale assumption.

The current long-term inflation assumptions adopted by the 1937 act counties are shown in the following chart. The average inflation assumption for these systems is currently 4.45%.

Because of the cyclical nature of inflation and the long-term nature of the System's liabilities, we believe that it is appropriate to assume that the average inflation rate to be experienced over the next 30 to 50 years (which is approximately the lifetime of the present obligations of the System) will be between 4.00% and 5.00%.

From	To	Years	Average
1993	2002	10	2.46%
1983	2002	20	3.15%
1973	2002	30	5.00%
1963	2002	40	4.61%
1953	2002	50	3.96%
1943	2002	60	4.11%
1933	2002	70	3.88%
1923	2002	80	3.10%
1913	2002	90	3.40%



Real Rate of Return

The first step in developing a real rate of return is to analyze how the System's assets are allocated among the various investment classes. Based on this information, we can then apply the anticipated rate of return to the respective classes and develop an overall estimated real rate of return. The System has adopted the target asset allocation shown on the following page.

Based on the information presented in the economic assumption section, we recommend that the current inflation rate assumption of 4.50% continue to be used.

CURRENT LONG-TERM INFLATION ASSUMPTIONS ADOPTED BY OTHER 1937 ACT COUNTIES			
Retirement Association	Assumed Inflation Rate	Retirement Association	Assumed Inflation Rate
Alameda	4.50%	Sacramento	4.25%
Contra Costa	4.25%	San Bernardino	4.50%
Fresno	4.50%	San Diego	4.00%
Imperial	5.00%	San Joaquin	4.25%
Kern	4.50%	San Mateo	4.25%
Los Angeles	4.00%	Santa Barbara	4.50%
Martin	4.25%	Sonoma	4.50%
Mendocino	4.75%	Stanislaus	4.50%
Merced	4.50%	Tulare	4.50%
Orange	4.50%	Ventura	4.25%

The return on assets, net of expenses, experienced by the Fund since 1981 is shown below. The increase in the Consumer Price Index is also shown for comparative purposes.

Applying the System's target asset allocation to the real rates of return in the table above produces a real rate of return of approximately 5.85% (assuming an equal proportion of government and corporate bonds and assuming a return of 4% for real estate). After adjusting for expenses and potential adverse future experience, we believe that a real rate of return of 3.50% provides a reasonable degree of conservatism when used with a 4.50% inflation rate. Thus, we recommend that the 8.00% investment return assumption be continued. In addition, since the reserves are credited at the assumed interest rate biannually, the 8.00% interest rate is compounded for valuation purposes.

IBBOTSON-SINGUEFIELD REAL RATES OF RETURN (1926 - 2001)	
Stocks	7.4%
Long-term government bonds	2.2%
Long-term corporate bonds	2.6%
Treasury bills	0.7%

There have been numerous studies performed which analyze the expected long-term real rates of return for use in asset allocation models. Roger Ibbotson and Rex A. Sinquefeld produced one of these studies for the period 1926-2001 called Stocks, Bonds and Inflation: Simulations of the Future. The results of this study are presented below.

ASSET ALLOCATION AS OF JUNE 30, 2003 (MARKET VALUE)	
Target	
Equity	68%*
Fixed Income/Bonds	27%*
Real Estate	4%
Short Term Cash Equivalents	1%

*Includes International Equity and Fixed Income

2002 calendar years, respectively.

The returns on an actuarial value of assets basis, net of expenses, were 7.9% and 2.9% for 2001 and

* Based on All Urban Consumers - U.S. City Average, June indices.

NET RETURN ON ASSETS vs. INCREASE IN CONSUMER PRICE INDEX		Year Ended June 30,
Increase in Consumer Price Index*	Net Return @ Market Value	
9.6%	1.9%	1981
7.1%	17.6%	1982
2.6%	10.8%	1983
4.2%	17.6%	1984
3.8%	9.7%	1985
1.8%	10.8%	1986
3.7%	17.6%	1987
4.0%	18.5%	1988
5.2%	10.8%	1989
4.7%	17.6%	1990
4.7%	18.5%	1991
3.1%	13.2%	1992
3.0%	(0.7)%	1993
2.5%	17.7%	1994
3.0%	15.6%	1995
2.8%	19.9%	1996
2.3%	18.9%	1997
1.7%	10.5%	1998
2.0%	6.4%	1999
3.7%	(4.3)%	2000
3.3%	(5.4)%	2001
1.1%	N/A	2002
3.6%		22-Year Compound Average
3.1%		15-Year Compound Average

Merit and Longevity Increases

The merit and longevity component of the total salary scale assumption reflects increases in members' salaries due to promotions, advances in pay grades, etc. These increases are dependent on an individual's membership and are graded downward as members age.

The overall effect of the merit and longevity increases is to add approximately 1.00% to the total salary scale assumption.

Recommendation

Since interest is credited biannually at a nominal rate of 4.00%, we recommend that an effective rate of 8.16% be used. We also recommended that a 4.50% inflation rate assumption and a total salary scale assumption of 5.50% (approximately) be used to develop the System's costs.

SECTION IV - APPENDIX

SUMMARY OF ACTUARIAL ASSUMPTIONS

SCHEDULE 1

The Entry Age Normal Actuarial Cost Method was used in conjunction with the following actuarial assumptions. The UAAL is being funded over 15 years from the date each new liability is first recognized effective from the December 31, 2002 valuation date.

1. Interest: 8.00% per annum, compounded biannually.
2. Interest Credited to Employee Accounts: 8.00% per annum, compounded biannually.
3. Inflation: 4.50% per annum.
4. Asset Valuation: Actuarial value.
5. Salary Scale: See Schedule 4
6. Spouses and Dependents: 80% 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 2
8. Years of Life Expectancy After Retirement: See Schedule 3
9. Years of Life Expectancy After Disability: See Schedule 3
10. Reciprocity Assumption: 50% of members who terminate with a vested benefit are assumed to enter a reciprocal system.
11. Deferral Age for Vested Terminations: 62 for General members; 55 for Safety members

SCHEDULE 2

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 .1200, then we are assuming that 12.0% of the active members at age 25 will terminate without vested rights during the next year.

**SCHEDULE 2
PROBABILITIES OF SEPARATION FROM ACTIVE SERVICE
(RECOMMENDED ASSUMPTIONS)**

GENERAL MEMBERS -- MALES

Age	Withdrawal	Ordinary Death	Ordinary Disability	Service	Death While Eligible	Duty Death	Duty Disability	Terminated Vested
20	0.18975	0.00011	0.00000	0.00000	0.00000	0.00013	0.00011	0.00000
21	0.17825	0.00011	0.00000	0.00000	0.00000	0.00013	0.00011	0.00000
22	0.16675	0.00011	0.00000	0.00000	0.00000	0.00013	0.00011	0.00000
23	0.15525	0.00011	0.00000	0.00000	0.00000	0.00013	0.00011	0.00000
24	0.14375	0.00011	0.00000	0.00000	0.00000	0.00013	0.00011	0.00000
25	0.13800	0.00017	0.00000	0.00000	0.00006	0.00013	0.00011	0.00000
26	0.13225	0.00017	0.00000	0.00000	0.00006	0.00013	0.00011	0.00000
27	0.12363	0.00017	0.00000	0.00000	0.00006	0.00013	0.00011	0.00000
28	0.11500	0.00017	0.00000	0.00000	0.00006	0.00013	0.00011	0.00100
29	0.10638	0.00017	0.00000	0.00000	0.00006	0.00013	0.00011	0.00200
30	0.09775	0.00023	0.00000	0.00000	0.00014	0.00013	0.00022	0.00450
31	0.09200	0.00023	0.00000	0.00000	0.00014	0.00013	0.00022	0.00650
32	0.08625	0.00023	0.00000	0.00000	0.00014	0.00013	0.00022	0.00850
33	0.08050	0.00023	0.00000	0.00000	0.00014	0.00013	0.00022	0.01100
34	0.07475	0.00023	0.00000	0.00000	0.00014	0.00013	0.00022	0.01200
35	0.06900	0.00029	0.00011	0.00000	0.00014	0.00013	0.00033	0.01300
36	0.06325	0.00029	0.00011	0.00000	0.00014	0.00013	0.00044	0.01350
37	0.05865	0.00029	0.00011	0.00000	0.00020	0.00013	0.00055	0.01400
38	0.05520	0.00029	0.00011	0.00000	0.00020	0.00013	0.00066	0.01300
39	0.05175	0.00034	0.00021	0.00000	0.00020	0.00013	0.00077	0.01200
40	0.04945	0.00034	0.00021	0.00000	0.00027	0.00013	0.00099	0.01250
41	0.04715	0.00039	0.00032	0.00000	0.00027	0.00013	0.00121	0.01300
42	0.04485	0.00039	0.00042	0.00000	0.00034	0.00013	0.00132	0.01400
43	0.04140	0.00039	0.00053	0.00000	0.00034	0.00013	0.00143	0.01500
44	0.03795	0.00045	0.00063	0.00000	0.00041	0.00013	0.00165	0.01650
45	0.03450	0.00051	0.00074	0.00000	0.00047	0.00013	0.00176	0.01800
46	0.03220	0.00056	0.00084	0.00000	0.00054	0.00013	0.00187	0.02000
47	0.02875	0.00062	0.00095	0.00000	0.00068	0.00013	0.00198	0.01800
48	0.02760	0.00068	0.00116	0.00000	0.00082	0.00013	0.00209	0.01650
49	0.02760	0.00073	0.00137	0.04500	0.00095	0.00013	0.00220	0.01500
50	0.02645	0.00079	0.00158	0.02500	0.00109	0.00013	0.00242	0.01400
51	0.02530	0.00090	0.00179	0.02500	0.00122	0.00013	0.00264	0.01300
52	0.02415	0.00101	0.00200	0.02500	0.00142	0.00013	0.00275	0.01200
53	0.02300	0.00112	0.00221	0.03000	0.00163	0.00013	0.00286	0.01100
54	0.02185	0.00124	0.00242	0.06000	0.00184	0.00013	0.00308	0.01000
55	0.01970	0.00135	0.00263	0.04000	0.00204	0.00013	0.00330	0.00950
56	0.01840	0.00146	0.00284	0.04500	0.00224	0.00013	0.00341	0.00850
57	0.01725	0.00157	0.00315	0.07000	0.00245	0.00013	0.00352	0.00800
58	0.01610	0.00169	0.00347	0.09000	0.00265	0.00013	0.00374	0.00750
59	0.01495	0.00180	0.00389	0.11000	0.00278	0.00013	0.00385	0.00700
60	0.01380	0.00191	0.00431	0.25000	0.00299	0.00013	0.00407	0.00650
61	0.01265	0.00203	0.00473	0.31000	0.00319	0.00013	0.00418	0.00600
62	0.01150	0.00214	0.00515	0.12000	0.00340	0.00013	0.00440	0.00550
63	0.01150	0.00225	0.00557	0.20000	0.00360	0.00013	0.00462	0.00500
64	0.01150	0.00236	0.00599	0.29000	0.00381	0.00013	0.00484	0.00450
65	0.01150	0.00253	0.00641	0.22000	0.00401	0.00013	0.00500	0.00400
66	0.01150	0.00270	0.00693	0.22000	0.00422	0.00013	0.00500	0.00400
67	0.01150	0.00287	0.00746	0.30000	0.00449	0.00013	0.00500	0.00400
68	0.01150	0.00304	0.00798	0.40000	0.00476	0.00013	0.00500	0.00400
69	0.01150	0.00304	0.00798	1.00000	0.00000	0.00000	0.00000	0.00000
70	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

SCHEDULE 2
PROBABILITIES OF SEPARATION FROM ACTIVE SERVICE
(RECOMMENDED ASSUMPTIONS)
GENERAL MEMBERS -- FEMALES

Age	Withdrawal	Ordinary Death	Ordinary Disability	Service	Death While Eligible	Duty Death	Duty Disability	Terminated Vested
20	0.17250	0.00010	0.00000	0.00000	0.00000	0.00010	0.00012	0.00000
21	0.16500	0.00010	0.00000	0.00000	0.00000	0.00010	0.00012	0.00000
22	0.15750	0.00010	0.00000	0.00000	0.00000	0.00010	0.00012	0.00000
23	0.14750	0.00010	0.00000	0.00000	0.00000	0.00010	0.00012	0.00000
24	0.13750	0.00010	0.00000	0.00000	0.00000	0.00010	0.00012	0.00000
25	0.13250	0.00010	0.00018	0.00000	0.00008	0.00010	0.00012	0.00000
26	0.13000	0.00010	0.00018	0.00000	0.00008	0.00010	0.00012	0.00000
27	0.12500	0.00020	0.00018	0.00000	0.00008	0.00010	0.00012	0.00440
28	0.12000	0.00020	0.00018	0.00000	0.00008	0.00010	0.00012	0.00660
29	0.11500	0.00020	0.00018	0.00000	0.00008	0.00010	0.00012	0.00880
30	0.11000	0.00020	0.00018	0.00000	0.00008	0.00010	0.00012	0.01100
31	0.10500	0.00020	0.00018	0.00000	0.00008	0.00010	0.00012	0.01320
32	0.10000	0.00020	0.00035	0.00000	0.00008	0.00010	0.00012	0.01540
33	0.09500	0.00020	0.00035	0.00000	0.00008	0.00010	0.00012	0.01760
34	0.09100	0.00020	0.00035	0.00000	0.00008	0.00010	0.00012	0.01870
35	0.08700	0.00030	0.00050	0.00000	0.00008	0.00010	0.00024	0.01980
36	0.08200	0.00030	0.00050	0.00000	0.00008	0.00010	0.00024	0.01980
37	0.07600	0.00030	0.00050	0.00000	0.00008	0.00010	0.00036	0.01980
38	0.06900	0.00030	0.00050	0.00000	0.00008	0.00010	0.00036	0.01980
39	0.06200	0.00030	0.00050	0.00000	0.00008	0.00010	0.00048	0.01980
40	0.05500	0.00040	0.00068	0.00000	0.00008	0.00010	0.00060	0.02035
41	0.05000	0.00040	0.00085	0.00000	0.00008	0.00010	0.00072	0.02090
42	0.04500	0.00040	0.00085	0.00000	0.00008	0.00010	0.00084	0.02090
43	0.04000	0.00040	0.00117	0.00000	0.00008	0.00010	0.00096	0.02090
44	0.03600	0.00040	0.00135	0.00000	0.00008	0.00010	0.00096	0.02090
45	0.03200	0.00050	0.00153	0.00000	0.00016	0.00010	0.00108	0.02090
46	0.03000	0.00050	0.00168	0.00000	0.00016	0.00010	0.00108	0.02090
47	0.02900	0.00050	0.00168	0.00000	0.00016	0.00010	0.00120	0.02035
48	0.02800	0.00060	0.00185	0.00000	0.00024	0.00010	0.00132	0.02035
49	0.02700	0.00060	0.00203	0.00000	0.00024	0.00010	0.00144	0.01980
50	0.02600	0.00060	0.00219	0.02000	0.00032	0.00010	0.00144	0.01925
51	0.02500	0.00060	0.00236	0.01200	0.00040	0.00010	0.00156	0.01815
52	0.02400	0.00070	0.00252	0.01200	0.00048	0.00010	0.00168	0.01650
53	0.02300	0.00080	0.00252	0.01300	0.00056	0.00010	0.00180	0.01430
54	0.02200	0.00090	0.00270	0.01300	0.00064	0.00010	0.00192	0.01100
55	0.02100	0.00100	0.00286	0.05000	0.00072	0.00010	0.00204	0.00880
56	0.02000	0.00110	0.00305	0.03000	0.00080	0.00010	0.00216	0.00660
57	0.01900	0.00120	0.00319	0.02500	0.00088	0.00010	0.00216	0.00550
58	0.01800	0.00140	0.00354	0.03500	0.00096	0.00010	0.00228	0.00440
59	0.01700	0.00160	0.00387	0.04000	0.00104	0.00010	0.00240	0.00440
60	0.01650	0.00180	0.00422	0.06000	0.00112	0.00010	0.00252	0.00440
61	0.01550	0.00200	0.00458	0.10000	0.00120	0.00010	0.00264	0.00440
62	0.01500	0.00220	0.00506	0.20000	0.00128	0.00010	0.00276	0.00440
63	0.01500	0.00240	0.00557	0.15000	0.00136	0.00010	0.00288	0.00440
64	0.01500	0.00260	0.00608	0.15000	0.00144	0.00010	0.00300	0.00440
65	0.01500	0.00280	0.00600	0.30000	0.00160	0.00010	0.00000	0.00000
66	0.01500	0.00300	0.00600	0.25000	0.00176	0.00010	0.00000	0.00000
67	0.01500	0.00330	0.00600	0.25000	0.00192	0.00010	0.00000	0.00000
68	0.01500	0.00360	0.00600	0.30000	0.00208	0.00010	0.00000	0.00000
69	0.01500	0.00390	0.00600	0.50000	0.00224	0.00010	0.00000	0.00000
70	0.00000	0.00000	0.00000	1.00000	0.00000	0.00000	0.00000	0.00000

SCHEDULE 2
PROBABILITIES OF SEPARATION FROM ACTIVE SERVICE
(RECOMMENDED ASSUMPTIONS)
SAFETY MEMBERS

Age	Withdrawal	Ordinary Death	Ordinary Disability	Service	Death While Eligible	Duty Death	Duty Disability	Terminated Vested
20	0.0700	0.0007	0.0000	0.0000	0.0000	0.0006	0.0014	0.0000
21	0.0670	0.0007	0.0000	0.0000	0.0000	0.0006	0.0014	0.00585
22	0.0640	0.0007	0.0000	0.0000	0.0000	0.0006	0.0014	0.00910
23	0.0610	0.0007	0.0000	0.0000	0.0000	0.0006	0.0014	0.01235
24	0.0580	0.0007	0.0000	0.0000	0.0000	0.0006	0.0018	0.01560
25	0.0550	0.0015	0.0004	0.0000	0.0006	0.0013	0.0027	0.01885
26	0.0520	0.0015	0.0004	0.0000	0.0006	0.0013	0.0036	0.02145
27	0.0490	0.0015	0.0004	0.0000	0.0006	0.0013	0.0049	0.02405
28	0.0450	0.0015	0.0004	0.0000	0.0006	0.0013	0.0077	0.02740
29	0.0410	0.0015	0.0004	0.0000	0.0006	0.0013	0.0112	0.03145
30	0.0380	0.0015	0.0004	0.0000	0.0006	0.0013	0.0150	0.03550
31	0.0350	0.0015	0.0007	0.0000	0.0006	0.0013	0.0195	0.03950
32	0.0320	0.0015	0.0010	0.0000	0.0012	0.0013	0.0242	0.04355
33	0.0290	0.0015	0.0017	0.0000	0.0012	0.0013	0.0297	0.04760
34	0.0270	0.0015	0.0025	0.0000	0.0012	0.0013	0.0352	0.05165
35	0.0250	0.0015	0.0032	0.0000	0.0012	0.0013	0.0407	0.05570
36	0.0230	0.0015	0.0038	0.0000	0.0018	0.0013	0.0462	0.05975
37	0.0210	0.0015	0.0046	0.0000	0.0024	0.0013	0.0517	0.06380
38	0.0190	0.0015	0.0052	0.0000	0.0024	0.0013	0.0572	0.06785
39	0.0170	0.0015	0.0059	0.0000	0.0030	0.0013	0.0627	0.07190
40	0.0150	0.0023	0.0066	0.0000	0.0036	0.0020	0.0682	0.07595
41	0.0130	0.0023	0.0074	0.0000	0.0036	0.0020	0.0737	0.08000
42	0.0110	0.0023	0.0081	0.0000	0.0036	0.0020	0.0792	0.08405
43	0.0090	0.0023	0.0084	0.0000	0.0042	0.0020	0.0847	0.08810
44	0.0070	0.0023	0.0084	0.0000	0.0042	0.0020	0.0892	0.09215
45	0.0060	0.0030	0.0088	0.0000	0.0048	0.0026	0.0947	0.09620
46	0.0050	0.0030	0.0088	0.0000	0.0054	0.0033	0.1002	0.10025
47	0.00450	0.0030	0.0091	0.0110	0.0054	0.0039	0.1047	0.10430
48	0.0040	0.0038	0.0091	0.0110	0.0060	0.0045	0.1092	0.10835
49	0.0040	0.0038	0.0094	0.0110	0.0060	0.0052	0.1137	0.11240
50	0.0040	0.0045	0.0094	0.0550	0.0066	0.0058	0.1182	0.11645
51	0.0040	0.0052	0.0098	0.0440	0.0072	0.0065	0.1227	0.12050
52	0.0040	0.0068	0.0102	0.03850	0.0084	0.0078	0.1272	0.12455
53	0.0040	0.0075	0.0105	0.03850	0.0090	0.0084	0.1317	0.12860
54	0.0040	0.0082	0.0105	0.1000	0.0096	0.0091	0.1362	0.13265
55	0.0000	0.0082	0.0000	0.0750	0.0102	0.0097	0.1407	0.13670
56	0.0000	0.0090	0.0000	0.0750	0.0108	0.0104	0.1452	0.14075
57	0.0000	0.0097	0.0000	0.1500	0.0114	0.0117	0.1497	0.14480
58	0.0000	0.0105	0.0000	0.4000	0.0120	0.0130	0.1542	0.14885
59	0.0000	0.0112	0.0000	1.0000	0.0120	0.0130	0.1587	0.15290
60	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

SCHEDULE 3
YEARS OF LIFE EXPECTANCY AFTER SERVICE RETIREMENT
(RECOMMENDED ASSUMPTIONS)

Age	GENERAL		SAFETY		Age	GENERAL		SAFETY	
	Male	Female	Male	Female		Male	Female	Male	Female
50	32.55	33.94	32.55	33.94	81	8.88	9.14	8.88	9.14
51	31.62	32.99	31.62	32.99	82	8.37	8.58	8.37	8.58
52	30.69	32.05	30.69	32.05	83	7.89	8.05	7.89	8.05
53	29.77	31.11	29.77	31.11	84	7.44	7.54	7.44	7.54
54	28.85	30.17	28.85	30.17	85	7.00	7.06	7.00	7.06
55	27.95	29.24	27.95	29.24	86	6.59	6.59	6.59	6.59
56	27.04	28.31	27.04	28.31	87	6.19	6.15	6.19	6.15
57	26.15	27.40	26.15	27.40	88	5.80	5.73	5.80	5.73
58	25.27	26.49	25.27	26.49	89	5.43	5.34	5.43	5.34
59	24.39	25.59	24.39	25.59	90	5.07	4.98	5.07	4.98
60	23.52	24.70	23.52	24.70	91	4.73	4.64	4.73	4.64
61	22.67	23.82	22.67	23.82	92	4.42	4.33	4.42	4.33
62	21.83	22.96	21.83	22.96	93	4.13	4.04	4.13	4.04
63	21.00	22.11	21.00	22.11	94	3.86	3.76	3.86	3.76
64	20.18	21.28	20.18	21.28	95	3.61	3.51	3.61	3.51
65	19.39	20.46	19.39	20.46	96	3.37	3.28	3.37	3.28
66	18.60	19.65	18.60	19.65	97	3.16	3.06	3.16	3.06
67	17.84	18.86	17.84	18.86	98	2.98	2.86	2.98	2.86
68	17.10	18.08	17.10	18.08	99	2.81	2.67	2.81	2.67
69	16.37	17.31	16.37	17.31	100	2.66	2.50	2.66	2.50
70	15.66	16.54	15.66	16.54	101	2.52	2.34	2.52	2.34
71	14.97	15.78	14.97	15.78	102	2.39	2.19	2.39	2.19
72	14.29	15.04	14.29	15.04	103	2.26	2.06	2.26	2.06
73	13.63	14.31	13.63	14.31	104	2.15	1.94	2.15	1.94
74	12.98	13.60	12.98	13.60	105	2.04	1.83	2.04	1.83
75	12.34	12.90	12.34	12.90	106	1.93	1.74	1.93	1.74
76	11.72	12.22	11.72	12.22	107	1.84	1.66	1.84	1.66
77	11.12	11.57	11.12	11.57	108	1.75	1.59	1.75	1.59
78	10.53	10.93	10.53	10.93	109	1.68	1.54	1.68	1.54
79	9.96	10.31	9.96	10.31	110	1.62	1.50	1.62	1.50
80	9.40	9.71	9.40	9.71					

1994 GA (x-2, y+1) for General Members
 1994 GA (x-2, y+1) for Safety Members

SCHEDULE 3
YEARS OF LIFE EXPECTANCY AFTER DISABILITY RETIREMENT
(RECOMMENDED ASSUMPTIONS)

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)

YEARS OF LIFE EXPECTANCY AFTER DISABILITY RETIREMENT

(RECOMMENDED ASSUMPTIONS)

SCHEDULE 3

SAFETY AND PROBATION MEMBERS					
Age	Years of Life Expectancy	Age	Years of Life Expectancy	Age	Years of Life Expectancy
20	51.12	51	24.38	81	7.41
21	50.20	52	23.59	82	7.00
22	49.29	53	22.80	83	6.63
23	48.39	54	22.03	84	6.27
24	47.48	55	21.26	85	5.94
25	46.58	56	20.50	86	5.63
26	45.68	57	19.77	87	5.34
27	44.79	58	19.06	88	5.06
28	43.89	59	18.40	89	4.80
29	43.01	60	17.78	90	4.55
30	42.12	61	17.20	91	4.31
31	41.24	62	16.64	92	4.09
32	40.36	63	16.11	93	3.87
33	39.48	64	15.59	94	3.66
34	38.61	65	15.08	95	3.46
35	37.74	66	14.58	96	3.26
36	36.88	67	14.09	97	3.07
37	36.02	68	13.61	98	2.89
38	35.16	69	13.13	99	2.71
39	34.31	70	12.66	100	2.54
40	33.46	71	12.18	101	2.37
41	32.61	72	11.70	102	2.20
42	31.77	73	11.21	103	2.04
43	30.93	74	10.72	104	1.88
44	30.09	75	10.22	105	1.72
45	29.26	76	9.73	106	1.55
46	28.43	77	9.24	107	1.38
47	27.61	78	8.75	108	1.21
48	26.80	79	8.28	109	1.04
49	25.99	80	7.83	110	.88
50	25.18				

1981 Disability (x-2) for Safety members

SCHEDULE 4

**RATIO OF CURRENT COMPENSATION
TO COMPENSATION ANTICIPATED AT RETIREMENT**

Age	General Members	Safety Members	Age	General Members	Safety Members
20	0.046	0.100	46	0.305	0.469
21	0.051	0.106	47	0.322	0.499
22	0.055	0.113	48	0.340	0.530
23	0.061	0.119	49	0.360	0.563
24	0.067	0.126	50	0.380	0.598
25	0.073	0.134	51	0.401	0.634
26	0.079	0.142	52	0.423	0.671
27	0.086	0.151	53	0.445	0.711
28	0.093	0.160	54	0.469	0.752
29	0.101	0.170	55	0.493	0.794
30	0.109	0.180	56	0.519	0.837
31	0.118	0.192	57	0.546	0.875
32	0.127	0.203	58	0.574	0.915
33	0.136	0.216	59	0.602	0.956
34	0.146	0.230	60	0.632	1.000
35	0.156	0.244	61	0.663	
36	0.167	0.258	62	0.695	
37	0.178	0.274	63	0.729	
38	0.189	0.291	64	0.764	
39	0.202	0.309	65	0.800	
40	0.215	0.328	66	0.837	
41	0.228	0.348	67	0.875	
42	0.242	0.369	68	0.915	
43	0.257	0.391	69	0.956	
44	0.272	0.415	70	1.000	
45	0.288	0.441			

Note: Salary scale assumption reflects 4.50% for inflation and graded merit and longevity