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February 11, 1993

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Board of Retirement
Employees' Retirement Association
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Ladies and Gentlemen:

Pursuant to our agreement, we have completed an actuarial valuation and experience analysis of the County's Retirement System as of June 30, 1992. We are pleased to submit our report on the results of the survey.

This report describes in detail both the results and the recommendations arising from our study. The results of a study of retiree supplemental COLA benefits and possible transfers from Undistributed Earnings Reserve are also included in this report.

We look forward to discussing this report with the Board and wish to express our appreciation for the cooperation extended to us during the course of this survey.

Respectfully submitted,

W F CORROON

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Enclosure

EMPLOYEES' RETIREMENT ASSOCIATION
OF THE COUNTY OF FRESNO

ACTUARIAL REPORT

Prepared for the
Board of Retirement
as of
June 30, 1992

COUNTY OF FRESNO

JULY 1, 1992

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SECTION

I

REPORT PREFACE



(i) INTRODUCTION

We were requested to perform an actuarial valuation and experience analysis of the Retirement System as of June 30, 1992, using the latest statistical information available as to the active, inactive and retired membership. The liabilities associated with the retiree supplemental COLA benefits were also requested as of this date.

The results presented herein are based upon the unaudited data as supplied to W F Corroon by the Retirement Office and the benefits for General and Safety members under Sections 31676.12 and 31664, respectively, of the County Employees Retirement Law of 1937.

The valuation results have been calculated under two different but consistent salary scales and interest rate assumptions.

The ratio of the assets of the System to its obligation for benefits earned to the date of the valuation is being provided on a plan termination basis and on the Governmental Accounting Standards Board (GASB) Statement No. 5 basis. We believe that either ratio, if used consistently from year to year, is a good measure of the funding progress of the Plan.

We believe that the information included in this report will be of help to all parties in our mutual effort to assure the actuarial soundness and funding adequacy of the Retirement System.



(ii) HIGHLIGHTS OF ACTUARIAL DATA

Our July 1, 1990 and July 1, 1992 actuarial valuations of your System were based on the following data:

	July 1, 1990	July 1, 1992	Percentage Increase During the Two Year Period
Active Members			
General	5,726	5,871	3%
Number	\$ 150,194,000	\$ 170,183,000	13%
Total annual payroll	\$ 2,186	\$ 2,416	11%
Average monthly salary			
Safety			
Number	602	716	19%
Total annual payroll	\$ 19,476,000	\$ 24,458,000	26%
Average monthly salary	\$ 2,696	\$ 2,847	6%
General and Safety			
Number	6,328	6,587	4%
Total annual payroll	\$ 169,670,000	\$ 194,641,000	15%
Average monthly salary	\$ 2,234	\$ 2,462	10%
Retired Members			
Number	2,291	2,472	8%
Total annual pension roll (basic)	\$ 16,654,000	\$ 19,907,000	20%
Average monthly allowance (basic)	\$ 606	\$ 671	11%
Total annual pension roll (basic and COL)	\$ 21,130,000	\$ 25,681,000	22%
Average monthly allowance (basic and COL)	\$ 769	\$ 866	13%
Inactive Vested Members			
Number	575	660	15%
Net Assets			
At Book Value	\$ 515,667,000	\$ 625,724,000	21%
At Market Value	\$ 579,619,000	\$ 696,009,000	20%



SECTION

II

EXPERIENCE ANALYSIS



(I) NONECONOMIC ACTUARIAL ASSUMPTIONS

Probabilities of Separation from Service Prior to Retirement

An analysis was made, based upon each member's classification, sex, and attained age as of the valuation date, to determine the probabilities of members leaving the System because of nonvested withdrawal, death, disability retirement, service retirement, and vested withdrawal.

First, the probabilities of each of these were developed to reflect the actual experience that took place during the 2-year investigation period, July 1, 1990 through June 30, 1992. Then, a comparison was made between the probabilities of separation used in the previous valuation and those developed for the current study and all necessary adjustments were made.

Nonvested Withdrawal

As a result of the active investigation, it was found that the actual number of nonvested withdrawals was lower than expected for General male and female members at ages 30 and over. The rates were changed to reflect this experience. The Safety members' rates did not need adjusting at this time.

The net effect of these changes is to cause an increase in the cost to the System.

Service Retirement

Based on the experience during the investigation period, rates of service retirement for Safety members were decreased based on the actual experience of this group. For General male and female members the rates were unchanged.

Disability Retirement

During the investigation period, the incidence of ordinary disability was lower than expected while the incidence of duty disability was higher than expected for General male and female members. For Safety members, the incidence of ordinary disability closely reflected the expected levels but duty disability levels were higher than expected. The disability rates were adjusted accordingly for all three groups.

The net effect of these changes is to increase the System's costs.

Death Before Retirement

Based on experience during the period there was no need to adjust rates of death before retirement.



Vested Withdrawal

Based upon the actual experience, the rates of vested withdrawal were increased for General members. Safety member rates did not need adjusting at this time.

Summary of Probabilities of Separation

The rates of separation from active service have been discussed in the foregoing paragraphs. However, it is difficult to obtain the meaning of the various changes in the probabilities of separation by examining each one of them separately. This is because each of the probabilities depends on the others. For example, if there is more turnover, there will be fewer retirements. Because of this interdependency, it is helpful to develop another table which takes this into account. Exhibit 1 at the end of this Section shows, for both General and Safety members, the expected number of present active members who will eventually separate from the System for each of the various causes of termination based on the current set of assumptions. Exhibit 2 shows the results based on the new set of assumptions. In Exhibit 3, we have used the results from the first two exhibits to graphically display the percentage of members to separate, to make it easier to visualize the meaning of the probabilities of separation. For purposes of this graph, we have combined the following:

- service retirement and terminated vested into Service Retirement,
- ordinary and duty disabilities into Disability, and
- ordinary death, death while eligible and duty death into Death.

Mortality After Service Retirement

At the time of the last experience analysis of the Retirement System, the 1983 Group Annuity Male Mortality Table set back one year for males and the 1983 Group Annuity Female Mortality Table set forward one year for females was used as the basis for mortality after service retirement.

The experience analysis over the last 2 years represents a relatively short time frame on which to base a comprehensive analysis. To make these results more meaningful, and statistically more reliable, we have combined the mortality experience from the prior experience study in order to base our conclusions on a 4-year period. As shown in the table below, we would expect 93 General male deaths, 125 General female deaths and 9 Safety member deaths during the 4-year period ending June, 1992. The actual numbers were 94, 113, and 9 respectively.

SERVICE RETIREMENT	JULY 1988 - JUNE 1990		JULY 1990 - JUNE 1992		JULY 1988 - JUNE 1992	
	Actual	Expected	Actual	Expected	Actual	Expected
General Males	39	44	55	49	94	93
General Females	49	58	64	67	113	125
Safety	<u>4</u>	<u>4</u>	<u>5</u>	<u>5</u>	<u>9</u>	<u>9</u>
Total	92	106	124	121	216	227



Based on this experience and on that of the other Counties we serve, we recommend that the System continue to use the 1983 Group Annuity Male Mortality Table, set back one year for General males and Safety members and the 1983 Group Annuity Female Mortality Table set forward one year for General females. The life expectancies based on these tables are shown in Section IV(x) of this report.

Mortality After Disability Retirement

At the time of the last actuarial study, the 1981 Disability Mortality Table was used to measure mortality after disability for both males and females.

As with the mortality after service retirement, we have combined the mortality experience for retired disabled members for the 4-year period beginning July, 1988 through June, 1992. We show in the table below a comparison of actual and expected number of deaths to occur.

DISABILITY RETIREMENT	JULY 1988 - JUNE 1990		JULY 1990 - JUNE 1992		JULY 1988 - JUNE 1992	
	Actual	Expected	Actual	Expected	Actual	Expected
General	18	14	10	13	28	27
Safety	<u>0</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>2</u>
Total	18	15	10	14	28	29

The expected number of deaths among retired disabled members for the four years ending June 30, 1992 was 29. The actual number of deaths was 28. Based on this experience, and the experience of other Counties we serve, we have continued to use the 1981 Disability Mortality Table for both General and Safety members. The life expectancies based on this table are shown in Section IV(xi).

Mortality Basis for Employee Contribution Rates

In accordance with the 1937 County Retirement Act, we calculated basic contribution rates under benefit Section 31676.12 for General members using the 1983 Male Group Annuity Mortality Table with a four year setback to reflect a sex independent mortality table.

The Safety members' unisex rates are based on the 1983 Male Group Annuity Mortality Table set back one year.

These two tables continue to reflect a sex independent mortality table, and we recommend that they not be changed at this time.



Exhibit 1

Expected Number to Eventually Separate for Indicated Cause (Based on Current Actuarial Assumptions)

GENERAL MALE MEMBERS

Present Age	Number of Actives	Withdrawal	Ordinary Death	Ordinary Disability	Service	Death While Eligible	Duty Death	Duty Disability	Terminated Vested
20-24	45	41	0	0	2	0	0	0	2
25-29	165	131	1	1	17	1	0	0	14
30-34	256	150	3	4	58	2	0	2	37
35-39	366	140	5	10	142	3	1	3	62
40-44	455	98	8	16	256	6	1	6	64
45-49	434	50	8	16	305	6	1	6	42
50-54	233	17	4	8	186	3	0	3	12
55-59	141	6	2	4	123	1	0	1	4
60-64	52	1	1	1	48	0	0	0	1
65 & OVER	8	0	0	0	8	0	0	0	0
TOTAL	2,155	634	32	60	1,145	22	3	21	238
		(29.4%)	(1.5%)	(2.8%)	(53.2%)	(1.0%)	(0.1%)	(1.0%)	(11.0%)

GENERAL FEMALE MEMBERS

Present Age	Number of Actives	Withdrawal	Ordinary Death	Ordinary Disability	Service	Death While Eligible	Duty Death	Duty Disability	Terminated Vested
20-24	93	86	0	0	3	0	0	0	4
25-29	346	294	1	1	22	1	0	1	26
30-34	556	391	4	4	81	1	0	1	74
35-39	695	366	7	9	191	2	0	1	119
40-44	782	304	9	14	337	3	0	2	113
45-49	567	152	7	11	336	2	0	2	57
50-54	355	55	4	7	268	2	0	1	18
55-59	200	15	2	3	173	1	0	0	6
60-64	97	3	1	1	91	0	0	0	1
65 & OVER	25	0	0	0	25	0	0	0	0
TOTAL	3,716	1,666	35	50	1,527	12	0	8	418
		(44.8%)	(0.9%)	(1.3%)	(41.3%)	(0.3%)	(0.0%)	(0.2%)	(11.2%)

SAFETY MEMBERS

Present Age	Number of Actives	Withdrawal	Ordinary Death	Ordinary Disability	Service	Death While Eligible	Duty Death	Duty Disability	Terminated Vested
20-24	13	8	0	0	3	0	0	0	2
25-29	107	50	1	1	30	0	1	5	19
30-34	134	39	1	2	60	1	1	8	22
35-39	133	19	1	2	87	1	2	10	11
40-44	137	7	1	2	110	1	1	11	4
45-49	128	2	1	2	112	1	1	9	0
50-54	45	0	0	1	41	0	0	3	0
55 & OVER	19	0	0	0	18	0	0	1	0
TOTAL	716	125	5	10	461	4	6	47	58
		(17.5%)	(0.7%)	(1.4%)	(64.3%)	(0.6%)	(0.8%)	(6.6%)	(8.1%)



Exhibit 2

Expected Number to Eventually Separate for Indicated Cause (Based on New Actuarial Assumptions)

GENERAL MALE MEMBERS

Present Age	Number of Actives	Withdrawal	Ordinary Death	Ordinary Disability	Service	Death While Eligible	Duty Death	Duty Disability	Terminated Vested
20-24	45	40	0	0	2	0	0	0	3
25-29	165	126	1	1	18	1	0	1	17
30-34	256	134	3	4	63	2	0	2	48
35-39	366	122	6	8	141	3	1	5	80
40-44	455	92	8	13	249	5	1	8	79
45-49	434	49	8	14	302	5	1	8	47
50-54	233	17	4	6	186	3	0	4	13
55-59	141	6	2	3	123	1	0	2	4
60-64	52	1	1	1	48	0	0	0	1
65 & OVER	8	0	0	0	8	0	0	0	0
TOTAL	2,155	587	33	50	1,140	20	3	30	292
		(27.2%)	(1.5%)	(2.3%)	(53.1%)	(0.9%)	(0.1%)	(1.4%)	(13.5%)

GENERAL FEMALE MEMBERS

Present Age	Number of Actives	Withdrawal	Ordinary Death	Ordinary Disability	Service	Death While Eligible	Duty Death	Duty Disability	Terminated Vested
20-24	93	86	0	0	3	0	0	0	4
25-29	346	291	1	1	25	0	0	1	27
30-34	556	380	4	3	90	1	0	2	76
35-39	695	338	7	7	213	2	0	5	123
40-44	782	263	10	11	370	3	0	7	118
45-49	567	133	8	9	352	2	0	5	58
50-54	355	52	4	5	271	2	0	3	18
55-59	200	15	2	2	172	1	0	2	6
60-64	97	3	1	1	90	0	0	1	1
65 & OVER	25	0	0	0	25	0	0	0	0
TOTAL	3,716	1,561	37	39	1,611	11	0	26	431
		(42.0%)	(1.0%)	(1.0%)	(43.4%)	(0.3%)	(0.0%)	(0.7%)	(11.6%)

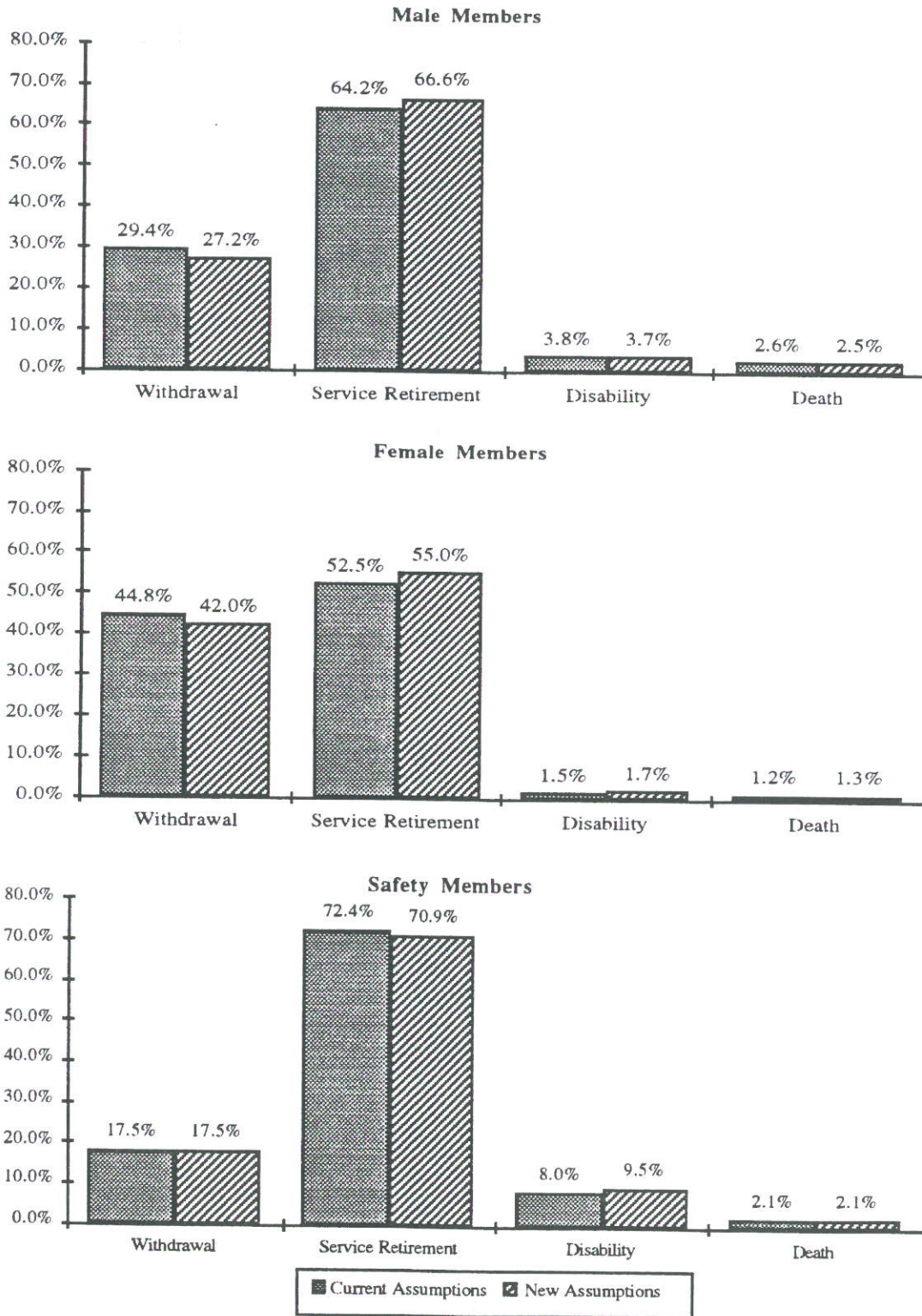
SAFETY MEMBERS

Present Age	Number of Actives	Withdrawal	Ordinary Death	Ordinary Disability	Service	Death While Eligible	Duty Death	Duty Disability	Terminated Vested
20-24	13	8	0	0	3	0	0	0	2
25-29	107	50	1	1	29	0	1	6	19
30-34	134	39	1	2	58	1	1	10	22
35-39	133	19	1	2	84	1	2	13	11
40-44	137	7	1	2	107	1	1	14	4
45-49	128	2	1	2	110	1	1	11	0
50-54	45	0	0	1	41	0	0	3	0
55 & OVER	19	0	0	0	18	0	0	1	0
TOTAL	716	125	5	10	450	4	6	58	58
		(17.5%)	(0.7%)	(1.4%)	(62.8%)	(0.6%)	(0.8%)	(8.1%)	(8.1%)



Exhibit 3

Expected Percentage to Eventually Separate for Indicated Cause
(Based on Current and New Actuarial Assumptions)



(ii) ECONOMIC ACTUARIAL ASSUMPTIONS

Interest Rate Assumption

Economic theory holds that the total nominal rate of return on an investment is comprised of two components:

- Inflation
- Real rate of return

In order for an investment to be marketable, it must be expected to provide a hedge against inflation. In addition, there must be some premium reflective of the risk that the investor takes in holding the security.

Inflation

The inflationary component provides a measure of the anticipated debasement of the dollar. It affects benefit amounts in the form of salary increases and cost-of-living adjustments. The bases for setting the inflation assumption, such as historical data, surveys, and economic forecasts, are all considered within the actual framework.

Based on all these considerations and the high equity and real estate composition of your portfolio, we recommend a 5.0% annual inflation rate assumption. We believe that the use of this rate will produce costs and liabilities that can be expected to be reasonably stable over the long-term future.

The inflationary salary assumptions used by the other 1937 Act Counties and California PERS are shown below in Table 1. As can be seen in Table 1, the average assumption is 5.11%.

TABLE 1

Current Long-Term Inflationary Assumptions Used by 1937 Act Counties			
Retirement System	Inflation	Retirement System	Inflation
Alameda	5.50%	San Bernardino	5.00%
Contra Costa	5.25%	San Diego	5.00%
Imperial	3.50%	San Joaquin	5.50%
Kern	4.00%	San Mateo	5.50%
Los Angeles	5.00%	Santa Barbara	5.50%
Marin	5.00%	Sonoma	5.50%
Mendocino	5.50%	Stanislaus	5.50%
Merced	5.50%	Tulare	5.50%
Orange	4.50%	Ventura	5.25%
Sacramento	5.00%		
		Average	5.11%

Inflation assumptions utilized by California PERS System is 5.25%.



Real Rate of Return

In order to develop an appropriate real (inflation free) rate of return assumption, it is necessary to take into account the allocation of assets among the various investment classes: stocks, bonds and other fixed income, real estate, and cash equivalents.

The target asset allocation presently adopted and the current level utilized by the System are shown in Table 2.

TABLE 2

FCERA Asset Allocation of Investments as of 6/30/92		
	Target*	Current*
Stocks	50%	49%
Fixed Income/Bonds	40%	30%
Real Estate Equity	10%	8%
Cash and Short Term	0%	13%

* At Market Value.

Based upon this information, anticipated real rates of returns for these classes of investments and the potential for variation in real rates of return, we believe that a 3-1/2% real rate of return assumption is reasonable in conjunction with the 5% inflation rate. This results in an interest rate assumption of 8-1/2%.

Historical Rate of Return

The average investment yields as well as the rates of return assumed by the Fund over the past eleven years were as follows:

TABLE 3

FCERA Yields vs. Assumed Rate of Returns		
Year Ended	Yield Including Realized Profits & Losses	Assumed Rate of Return
June 30, 1982	9.8%	7.00%
June 30, 1983	10.4%	8.00%
June 30, 1984	10.2%	8.00%
June 30, 1985	9.8%	8.50%
June 30, 1986	12.9%	8.50%
June 30, 1987	14.7%	8.50%
June 30, 1988	12.2%	8.50%
June 30, 1989	8.4%	8.50%
June 30, 1990	10.8%	8.50%
June 30, 1991	9.0%	8.50%
June 30, 1992	12.0%	8.50%
11-year Average	10.9%	8.27%



Reserve for Interest Fluctuations

The Reserve for Interest Fluctuations of \$6,257,000 as of June 30, 1992 has been funded by investment income that has exceeded the interest crediting benchmark over the years. It will be utilized to supplement investment income in shortfall periods. The following describes its importance in the financial operation of the 1937 Act and the setting of actuarial interest rates.

There are two aspects to the application of the actuarial interest rate in 1937 Act retirement systems:

1. The expected long-term total rate of return on the funds, and
2. A short-term benchmark for the semiannual crediting of interest on the fund's reserves.

With respect to the second aspect, six-month returns on the fund are volatile, due to the short measuring period. In some six-month periods the returns will exceed the benchmark, and in others they will fall short. Given that the actuarial rate serves as a benchmark, there is a natural tendency to minimize the probability of a shortfall by setting a lower benchmark. The reserve for interest fluctuations counteracts this tendency by serving as a stabilizing mechanism which allows the county retirement systems to consistently maintain a higher level of interest crediting on reserve accounts that are used to determine employer contribution rates.

Thus, the reserve mechanism is a factor in the actuarial interest rate-setting process. It allows us to base the interest rate assumption upon the expected long-term total rate of return by greatly eliminating the need to focus on short-term downside risks.

Salary Scale Assumption

The salary scale assumption is comprised of two components:

- Inflation
- Merit and Longevity

Inflation

Inflationary salary and wage increases are granted to maintain the purchasing power of salaries and wages earned by employees over time. Since retirement benefits are linked to compensation, inflationary increases affect the projected amount of benefit an employee will receive upon retirement.

Merit and Longevity Increases

The second component of the salary scale assumption is the merit and longevity increase. Employees receive this increase over their careers as a result of promotions and advances in their pay grades.

For your County, the "merit and longevity" increases range from 5% to 1/2% per year depending on the member's age and classification. The effect of the merit and



longevity increase is to add approximately 1% per year to the inflationary salary projections.

Multiple Studies

In connection with this survey, we have performed two valuations of the System based on two different interest rates and two corresponding inflation assumptions. The purpose of this was to analyze the effect of these changes on the County and member contribution rates. The following two studies were performed by us:

- Study #1 A valuation using 8-1/2% interest and 6% salary scale assumptions. Of the projected increase, 1% is for merit and longevity and 5% is for inflation. This set of economic assumptions is currently in effect.
- Study #2 A valuation using 8-1/4% interest and 5-3/4% salary scale assumptions. Of the projected increase, 1% is for merit and longevity and 4-3/4% is for inflation.

We show in Section IV(ix) a detailed listing of the above salary scales.



SECTION

III

VALUATION RESULTS



(i) CONTRIBUTION RATES

A comparison of County and employee total (basic and cost-of-living) rates on a group basis follows. This comparison shows rates currently contributed as well as rates resulting from our new study. Study #1 and #2 rates reflect the recommended changes in the noneconomic assumptions as described in Section II. The annual amounts are based on the June 30, 1992 payroll.

Composite Contribution Rates and Annual Amounts*

	COUNTY		EMPLOYEE	
	% of Payroll	Annual Amount	% of Payroll	Annual Amount
Current rates @ 8-1/2% interest and 6% total salary scale				
Before Transfers	12.19%	\$ 23,722,000	4.11%	\$ 8,000,000
After Transfers**	9.99%	\$ 19,440,000	2.86%	\$ 5,567,000
Study #1 rates @ 8-1/2% interest and 6% total salary scale				
Before Transfers	13.47%	\$ 26,226,000	4.32%	\$ 8,414,000
After Transfers**	11.27%	\$ 21,944,000	3.07%	\$ 5,981,000
Study #2 rates @ 8-1/4% interest and 5-3/4% total salary scale				
Before Transfers	14.33%	\$ 27,833,000	4.44%	\$ 8,651,000
After Transfers**	12.13%	\$ 23,601,000	3.19%	\$ 6,218,000

* Contribution rates are based upon benefit Section 31676.12 for General members and Section 31664 for Safety members and the fact that the County pays half of the member basic rate. All of the rates shown above reflect the reductions on account of transfers in 1989 from the Undistributed Earnings Reserve to the Cost-of-Living Reserve made toward liabilities on the County's (\$23,900,000) and the members' (\$10,000,000) behalf.

** Reflects transfers of \$11,000,000 for the employer and \$5,000,000 on behalf of the employees. These transfers will be totally exhausted by July 1, 1994.

In comparing the current rates with those recalculated by this study (Study #1), each based on the 8-1/2% assumption, we note increases in both the composite County and member contribution rates.

The recalculated Study #1 composite County contribution rate increased for the following reasons:

- Changes in noneconomic actuarial assumptions as a result of the experience analysis such as lower nonvested withdrawals, higher rates of duty disablement and more vested terminations.



- Increase in liabilities as a result of the "Golden Handshake" benefits provided to General members retiring between August and December 1991.
- Higher than expected salary increases for continuing active members offset somewhat for Safety members by the growth in total payroll.
- Higher average entry ages for both General and Safety active members.
- Shorter period used to amortize actuarial losses (18 years as of the valuation date).

Member cost-of-living rates increased due to the strengthening of the noneconomic actuarial assumptions and the increased demand upon the 1989 transfer of \$10,000,000 due to higher than expected numbers of active members benefiting from the reduced COLA contributions.

Study #2 results in higher rates reflecting the lower anticipated future investment earnings offset to some extent by the lower salary increases.

A more detailed comparison of the basic and cost-of-living contribution rates calculated in Studies #1 and #2 are shown in Tables A and B following this Section. Table A shows a comparison of the member contribution rates; Table B shows a similar comparison of the County contribution rates.

Member contributions are payable over the employee's future working lifetime. The County rates reflect the Entry Age Normal Funding method. Under this method, part of the liability is being paid over the future working lifetimes of the members. The remaining unfunded actuarial accrued liability is being amortized over 18 years from the valuation date.

Recommendations

We recommend that the Retirement Board adopt the following employee and County contribution rates resulting from Study #1:

- County: 11.27% of total payroll (as a group)
- Member: 3.07% of total payroll (as a group)

Please note that effective July 1, 1994, these contribution rates will increase to the "Before Transfer" levels unless another transfer from the Undistributed Earnings Reserve is made.

In this Section, we have pointed out, for comparison purposes, some of the corresponding costs if alternative economic assumptions are used. In addition, we have included (in Section III(ii)) the funding test (funding progress ratio). We look forward to meeting with the Board and discussing the various topics covered in this report.



TABLE A

Comparison of Employee Contribution Rates* (Using percentage of monthly salary in excess of \$350)

8-1/2% Interest and 6% Salary Scale Assumptions

CURRENT RATES

Before Transfers

GENERAL MEMBERS				SAFETY MEMBERS			
Entry Age	Basic	COL	Total	Entry Age	Basic	COL	Total
25	2.89%	.87%	3.76%	21	3.50%	1.05%	4.55%
35	3.33%	1.00%	4.33%	25	3.67%	1.10%	4.77%
45	3.87%	1.16%	5.03%	30	3.90%	1.17%	5.07%

After Transfers**

GENERAL MEMBERS				SAFETY MEMBERS			
Entry Age	Basic	COL	Total	Entry Age	Basic	COL	Total
25	2.51%	.00%	2.51%	21	3.30%	.00%	3.30%
35	3.08%	.00%	3.08%	25	3.52%	.00%	3.52%
45	3.78%	.00%	3.78%	30	3.82%	.00%	3.82%

RATES UPDATED BY 6/30/92 STUDY

Study #1 - 8-1/2% Interest and 6% Salary Scale Assumptions

Before Transfers

GENERAL MEMBERS				SAFETY MEMBERS			
Entry Age	Basic	COL	Total	Entry Age	Basic	COL	Total
25	2.89%	1.10%	3.99%	21	3.50%	1.34%	4.84%
35	3.33%	1.27%	4.60%	25	3.67%	1.40%	5.07%
45	3.87%	1.48%	5.35%	30	3.90%	1.49%	5.39%

After Transfers**

GENERAL MEMBERS				SAFETY MEMBERS			
Entry Age	Basic	COL	Total	Entry Age	Basic	COL	Total
25	2.74%	.00%	2.74%	21	3.50%	.09%	3.59%
35	3.33%	.02%	3.35%	25	3.67%	.15%	3.82%
45	3.87%	.23%	4.10%	30	3.90%	.24%	4.14%

* These rates reflect the fact that the County pays half of the members' basic rates.

** Reflects \$5,000,000 transfer on behalf of employees.



TABLE A

Comparison of Employee Contribution Rates*
(continued)

Study #2 – 8-1/4% Interest and 5-3/4% Salary Scale Assumptions

Before Transfers

GENERAL MEMBERS				SAFETY MEMBERS			
Entry Age	Basic	COL	Total	Entry Age	Basic	COL	Total
25	2.95%	1.16%	4.11%	21	3.58%	1.41%	4.99%
35	3.39%	1.33%	4.72%	25	3.75%	1.47%	5.22%
45	3.95%	1.55%	5.50%	30	3.99%	1.57%	5.56%

After Transfers**

GENERAL MEMBERS				SAFETY MEMBERS			
Entry Age	Basic	COL	Total	Entry Age	Basic	COL	Total
25	2.86%	.00%	2.86%	21	3.58%	.16%	3.74%
35	3.39%	.08%	3.47%	25	3.75%	.22%	3.97%
45	3.95%	.30%	4.25%	30	3.99%	.32%	4.31%

* These rates reflect the fact that the County pays half of the members' basic rates.

** Reflects \$5,000,000 transfer on behalf of employees.



TABLE B

Comparison of Employee Contribution Rates*

8-1/2% Interest and 6% Salary Scale Assumptions

CURRENT RATES

Before Transfers

	GENERAL		SAFETY	
	% of Payroll	Annual Amount*	% of Payroll	Annual Amount*
Basic	8.69%	\$ 14,789,000	12.81%	\$ 3,133,000
COL	<u>2.98</u>	<u>5,071,000</u>	<u>2.98</u>	<u>729,000</u>
Total	11.67%	\$ 19,860,000	15.79%	\$ 3,862,000

Average rate for the total group = 12.19%

After Transfers

	GENERAL		SAFETY	
	% of Payroll	Annual Amount*	% of Payroll	Annual Amount*
Basic	8.69%	\$ 14,789,000	12.81%	\$ 3,133,000
COL	<u>.78</u>	<u>1,327,000</u>	<u>.78</u>	<u>191,000</u>
Total	9.47%	\$ 16,116,000	13.59%	\$ 3,324,000

Average rate for the total group = 9.99%

RATES UPDATED BY 6/30/92 STUDY

Study #1 - 8-1/2% Interest and 6% Salary Scale Assumptions

Before Transfers

	GENERAL		SAFETY	
	% of Payroll	Annual Amount*	% of Payroll	Annual Amount*
Basic	9.77%	\$ 16,627,000	13.62%	\$ 3,331,000
COL	<u>3.22</u>	<u>5,480,000</u>	<u>3.22</u>	<u>788,000</u>
Total	12.99%	\$ 22,107,000	16.84%	\$ 4,119,000

Average rate for the total group = 13.47%

After Transfers

	GENERAL		SAFETY	
	% of Payroll	Annual Amount*	% of Payroll	Annual Amount*
Basic	9.77%	\$ 16,627,000	13.62%	\$ 3,331,000
COL	<u>1.02</u>	<u>1,736,000</u>	<u>1.02</u>	<u>250,000</u>
Total	10.79%	\$ 18,363,000	14.64%	\$ 3,581,000

Average rate for the total group = 11.27%

* Contributions are based on annual salaries on valuation date of \$170,183,000 for General and \$24,458,000 for Safety members.



TABLE B**Comparison of Employee Contribution Rates***
(continued)**Study #2 – 8-1/4% Interest and 5-3/4% Salary Scale Assumptions****Before Transfers**

	GENERAL		SAFETY	
	% of Payroll	Annual Amount*	% of Payroll	Annual Amount*
Basic	10.22%	\$ 17,393,000	14.40%	\$ 3,522,000
COL	<u>3.58</u>	<u>6,092,000</u>	<u>3.58</u>	<u>876,000</u>
Total	13.80%	\$ 23,485,000	17.98%	\$ 4,398,000

Average rate for the total group = 14.33%**After Transfers**

	GENERAL		SAFETY	
	% of Payroll	Annual Amount*	% of Payroll	Annual Amount*
Basic	10.22%	\$ 17,393,000	14.40%	\$ 3,522,000
COL	<u>1.38</u>	<u>2,348,000</u>	<u>1.38</u>	<u>338,000</u>
Total	11.60%	\$ 19,741,000	15.78%	\$ 3,860,000

Average rate for the total group = 12.13%

* Contributions are based on annual salaries on valuation date of \$170,183,000 for General and \$24,458,000 for Safety members.



(ii) FUNDING PROGRESS OF THE SYSTEM

A comparison of the measurement of the funding progress of the System in successive valuations is an important criteria for determining the soundness of a pension system. There are various methods of measuring the progress of the System's funding, but we believe the most useful measure is the ratio of the System's assets to its obligation for benefits earned to date. Unless amendments are made to the System, assumptions are strengthened or actuarial losses are incurred, the assets typically increase at a greater rate than the liabilities for benefits earned to date. This will have the effect of increasing the funding progress ratio in future years.

Funding Ratio - "Plan Termination" Assum.

At the time of the last valuation we computed the ratio of the assets of the System to the obligation for benefits earned to date based on a Plan Termination assumption. We believe that this measure will help the Board to monitor the progress of the funding status of the System. To this end, we include below a comparison of the previously calculated and recalculated funding ratios based on the current 8-1/2% interest rate assumption. Please note that the recalculated ratio reflects the recommended changes in noneconomic actuarial assumptions.

	Previously Calculated June 30, 1990	Recalculated June 30, 1992
1. Assets at Book Value*	\$ 515,667,000	\$ 625,724,000
2. Present Value of Benefits*	\$ 444,519,000	\$ 533,411,000
3. Funding Ratio (1) ÷ (2)	116%	117%

* Excludes accounts payable but includes retiree health insurance reserve.

The present value figure includes all liabilities of the System for basic and cost-of-living benefits granted to members and beneficiaries already on the pension roll. All basic and cost-of-living liabilities of active and vested inactive members are also included for every year of service already earned at the valuation date. Liabilities are based on the salaries of the members as of June 30, 1992. In calculating the funding progress of the System, we have used all of the assets, including all undistributed earnings, except for accounts payable.

The funding ratio at the recalculated 8-1/2% interest rate of 117% as developed in this study is high compared to the funding ratios of most public retirement plans. However, a funding ratio of 100% or more at a valuation date does not mean that future contributions are unnecessary. It does mean that if the System were to terminate as of that date, there would be more than enough money on hand to pay off all of the obligations incurred through that date.



GASB No 5 – "Plan Continuation" Assumption with Future Salary Increases

Reporting requirements were promulgated by the Governmental Accounting Standards Board (GASB) Statement No. 5, effective for plan years starting after December 15, 1986. The GASB No. 5 liabilities assume an on-going plan, i.e., they include future withdrawals, deaths and disability retirements. In addition, future projected salary increases are included in these figures. The pension benefit obligation includes all liabilities of the System for basic and cost-of-living benefits granted to members and beneficiaries already on the pension roll. All basic and cost-of-living liabilities of active and vested inactive members are included for every year of service already earned at the valuation date and assume immediate 100% vesting.

The GASB No. 5 liabilities and funding ratios as of June 30, 1990 and June 30, 1992, based on the 8-1/2% interest and 6% salary scale assumptions follow.

	Previously Calculated (8-1/2% interest 6% salary scale)	Recalculated (8-1/2% interest 6% salary scale)
1. Pension Benefit Obligation		
a. Current Retirants and Beneficiaries	\$ 236,050,000	\$ 287,480,000
b. Terminated Vested Participants	16,589,000	26,622,000
c. Active Participant's Accumulated Contributions	112,322,000	134,117,000
d. Active Participant's Employer Financed Portion:		
Vested	144,331,000	164,389,000
Nonvested	11,768,000	19,855,000
e. Retiree Health Insurance Reserve	26,684,000	22,685,000
f. Supplemental COLA	0	5,990,000
g. Total Pension Benefit Obligation	\$ 547,744,000	\$ 661,138,000
2. Net Assets at Book Value*	\$ 515,667,000	\$ 625,724,000
3. Funding Ratio (2) ÷ (1)	94%	95%

* Excludes accounts and trades payable.

This funding ratio is expected to reach 100% in 18 years, which is the amortization period currently used to pay off the unfunded liabilities. A GASB No. 5 ratio of 95% compares favorably to those of other 1937 Act retirement funds.



(iii) ACTUARIAL BALANCE SHEET

The purpose of an Actuarial Balance Sheet is to enable to employer, by reference to the periodic statements of this nature, to determine whether or not the contributions are adequate to provide the benefits without impairment to the Fund. The following is descriptive listing of the items which make up the Actuarial Balance Sheet for basic and cost-of-living benefits under the System.

Item #

1. The total assets in the Retirement Fund as of June 30, 1992, taken from the Accounting Balance Sheet.
2. The present value of the contributions that are anticipated will be made by present members after July 1, 1992 until their separation from the System as active members.
3. The present value of future contributions that will be required of the employer in order to fully provide the benefits anticipated on account of present active and retired members.
5. The actuarial present value of the allowances which are currently being paid to retired members and beneficiaries on account of service retirements, disability, and survivor members.
6. The present value of retirement allowance for anticipated future service and disability retirements, including continuance to spouses, to active and inactive members.
7. The present value of death benefits payable on account of the death of currently active members.
8. The present value of termination benefits payable on account of the withdrawal (refund) of currently active members.
9. & 12. The reserves held for future adverse experience, but sometimes used for other Retirement System purposes.
13. Reserve created to pay retiree health insurance premiums.
14. Reserve created to pay supplemental COLA benefits.



ACTUARIAL BALANCE SHEET*

As of June 30, 1992

ASSETS

	Basic	COL	Total
1. Total assets now held @ Book Value	\$ 487,984,628	\$ 181,230,372	\$ 669,215,000
2. Present value of future contribution members	52,320,339	17,682,417	70,002,756
3. Present value of future contributions by County:			
a. Normal Cost	97,812,900	21,358,851	119,171,751
b. UAAL	118,250,696	43,890,486	162,141,182
4. Total actuarial assets	\$ 756,368,563	\$ 264,162,126	\$ 1,020,530,689

LIABILITIES

	Basic	COL	Total
5. Present value of retirement allowances payable to present retired members	\$ 176,905,380	\$ 110,574,233	\$ 287,479,613
6. Present value of retirement allowances to be granted:			
a. Service retirement	415,537,403	131,695,830	547,233,233
b. Disability retirement	26,348,060	9,355,593	35,703,653
7. Present value of death benefits to be granted:			
a. 6 months' salary death benefit and return of contributions	2,293,729	683,852	2,977,581
b. Death while eligible to retire	2,491,650	869,062	3,360,712
c. Duty death	1,510,381	589,510	2,099,891
8. Present value of members' contributions to be returned upon withdrawal before retirement	21,673,960	10,394,046	32,068,006
9. Contingency reserve	6,257,000	0	6,257,000
10. Accounts payable	952,000	0	952,000
11. Trades payable	42,539,000	0	42,539,000
12. Undistributed earnings	31,185,000	0	31,185,000
13. Retiree Health Insurance Reserve	22,685,000	0	22,685,000
14. Supplemental COLA Reserve	5,990,000	0	5,990,000
15. Total actuarial liabilities	\$ 756,368,563	\$ 264,162,126	\$ 1,020,530,689

* Based on 8-1/2% interest and 6% salary scale assumptions.



(iv) SPECIAL STUDIES

SUPPLEMENTAL BENEFITS

Loss in Purchasing Power

We were requested by the Board of Retirement to determine the level of benefits and the costs associated with providing a supplemental benefit to retirees who have had the greatest loss in purchasing power. This can be achieved under Section 31874.3(b) of the Government Code which authorizes the Board to provide supplemental benefit increases to retirees whose accumulated unused COLA equals or exceeds 25%. In Table 1 below, we show the unused cost-of-living accumulations for retirees that meet the 25% eligibility criteria defined by Section 31874.3(b).

TABLE 1

Retirement Date	Accumulated Unused COLA through April 1, 1992 (Section 31870.1)
On or Before 4/1/73	71.5%
4/2/73 to 4/1/74	71.0%
4/2/74 to 4/1/75	68.0%
4/2/75 to 4/1/76	61.0%
4/2/76 to 4/1/77	54.0%
4/2/77 to 4/1/78	51.5%
4/2/78 to 4/1/79	47.0%
4/2/79 to 4/1/80	40.5%
4/2/80 to 4/1/81	35.0%
4/2/81 and after	not eligible

As shown in Table 1 above, all retirees with effective retirement dates on or before April 1, 1981 would be eligible to receive a supplemental COL benefit based on the unused COLA through April 1, 1992.

Supplemental Benefit Formula

We were requested by the Board to determine the benefits and costs to bring the loss in purchasing power down to a 25% level.

In Table 2 below, we show the percentage increase in benefits for retirees.

TABLE 2

Retired on or Before	Accumulated Unused COLA through April 1, 1992	25% Floor
4/1/73	71.5%	46.5%
4/1/74	71.0%	46.0%
4/1/75	68.0%	43.0%
4/1/76	61.0%	36.0%
4/1/77	54.0%	29.0%
4/1/78	51.5%	26.5%
4/1/79	47.0%	22.0%
4/1/80	40.5%	15.5%
4/1/81	35.0%	10.0%



To illustrate the amount of supplemental benefits, we take for example, a member who retired January 1, 1973 and is currently receiving \$1,000.00 per month in basic and COL benefits. This member's unused COL is 71.5%.

This member would receive a 46.5% (71.5% - 25.0%) increase, or \$465.00 (\$1,000.00 * 46.5%) per month.

SUMMARY OF COSTS

Members Retired 4/1/81 and Earlier

The annual benefits and corresponding lump sum costs needed to prefund these benefits on an on going basis (i.e., the lifetimes of the member and beneficiary) are shown below. For purposes of our calculations, we have assumed the following:

1. the annual supplemental benefits will not increase, (i.e., the benefit will not be revised to reflect future inflation nor future losses in purchasing power nor COLA increases); and
2. the eligibility will remain the same (i.e., no new retirees will be included in the future)
3. the supplemental benefit will be continued to the eligible spouse based on the option chosen at retirement.

	<u>Number Eligible</u>	<u>Annual Benefit</u>	<u>Present Value of Benefits</u>
25% Floor	1,137	\$ 2,324,000	\$ 16,873,000

A reserve to fund this benefit amounted to \$5,990,000 as of June 30, 1992. Based on the current retiree population eligible for this benefit, the additional amount to prefund this benefit is \$10,883,000 (\$16,873,000 - \$5,990,000), as of June 30, 1992.

The costs shown will increase if future Board actions are taken to provide any additional cost-of-living supplements to affected individuals or to extend this supplement to other retired members.

All Current and Future Retirees

We were also requested to determine the liabilities associated with providing this benefit to all current and future retirees.

In this case, the supplemental benefit would be redetermined after each on-going COLA is granted on April 1 and the unused bank is adjusted.

For example:

In Year 1 of eligibility for the supplemental benefit, a retiree's unused CPI bank is 27% and is receiving \$1,000 in basic and COL benefits. This retiree would receive 2% (27% - 25%) of \$1,000 or \$20 in supplemental benefits.

In Year 2, assuming that the change in CPI was 5% and, this same member would receive a 3% COLA increase in basic and COL benefits or \$1,030 in Year 2. The unused CPI bank would increase to 29% (27% + 2%).

The supplemental benefit would be 4% (29% - 25%) of \$1,030 or \$41.20 in Year 2.



SUMMARY OF COSTS

The net liabilities as of June 30, 1992 for this scenario is shown below:

	<u>Present Value of Benefits</u>
Current Retired Members	\$ 44,514,000
Active and Inactive Members	<u>63,350,000</u>
Total	\$ 107,864,000
Reserve	<u>5,990,000</u>
Net Liability	\$ 101,874,000

The net liability to fund this benefit for the current retirees and current active and inactive membership is \$101,874,000. This liability does not include the cost for new hires after June 30, 1992. We have estimated that the on-going or normal cost to provide this benefit for new hires would be 1.16% of new member's payroll and paid during the future working lifetime of each new hire.

TRANSFERS FROM UNDISTRIBUTED EARNINGS RESERVE

As part of our study, we were asked to discuss transfers from the Undistributed Earnings Reserve, which on June 30, 1992 stood at \$31,185,000. The transfers as of June 30, 1991 of \$11,000,000 and \$5,000,000 reduced the Cost-of-Living (COL) costs for both the County and the members respectively for a 3-year period ending June 30, 1994. At the end of the 3-year period, contribution rates for both the County and members will increase to the "before transfers" levels.

If transfers are used to offset liabilities rather than to replace some of next year's contributions, then each \$1,000,000 would reduce the required contribution rates by .04% of total payroll for the County and by .08% for the employees as a group.

These calculations were based on Study #1 actuarial assumptions. Furthermore, we have assumed that the transfers, if any, will be made by June 30, 1993.



SECTION
IV

APPENDIX



(i) MAJOR PROVISIONS OF THE RETIREMENT PLAN

Briefly summarized below are the major provisions of the County Employees Retirement Law of 1937, as amended through June 30, 1992, and as adopted by Fresno County.

Membership

Each person entering County Employment becomes a member on the first day of the calendar month after entrance.

Final Average Salary

Final average salary (FAS) is defined as the highest 12 consecutive months of compensation earnable.

Return of Contributions

If a member should resign or die before becoming eligible for retirement, his contribution plus interest will be refunded. In lieu of receiving a return of contributions, a member with five years of service may elect to leave his contributions on deposit and receive a deferred vested benefit when eligible for retirement.

Death Benefit – Before Retirement

In addition to the return of contributions, a death benefit is payable to the member's beneficiary or estate equal to one month's salary for each completed year of service under the retirement system, based on the final year's average salary, but not to exceed six (6) months' salary.

If a member dies while eligible for service retirement or non-service connected disability, the spouse receives 60% of the allowance that the member would have received for retirement on the day of his death.

If a member dies in the performance of duty, the spouse receives 50% of the member's FAS.

Death Benefit – After Retirement

If the retirement was for service connected disability, 100% of the member's allowance as it was at death is continued to the surviving spouse for life.

If the retirement was for other than service connected disability, 60% of the member's allowance is continued to the spouse for life.



Disability Benefit

Member with 5 years of service regardless of age, are eligible for non-service connected disability. The benefit is 1.8% of FAS for each year of service. If this benefit does not equal one-third of FAS, the benefit is increased by the same percentage of FAS for the years which would have been credited to age 62 (age 55 for Safety members), but the total benefit in this case cannot be more than one-third of FAS. If the disability is service connected, the member may retire regardless of length of service, and the benefit is 50% of FAS.

Service Retirement Benefit

Members with 10 years of service, who have attained the age of 50, are eligible to retire. Members with 30 years of service (20 years for Safety), regardless of age, are eligible to retire.

Benefit

The benefit expressed as a percentage of monthly FAS per year of service, depending on age at retirement, is illustrated below for typical ages. For members integrated with Social Security, the benefit is reduced by one-third of the percentage shown below times the first \$350 of monthly FAS per year of service after January 1, 1956.

<u>Age</u>	<u>General</u>	<u>Safety</u>
50	1.34%	2.00%
55	1.77%	2.62%
60	2.34%	2.62%
62 and over	2.62%	2.62%

Maximum Benefit

The maximum benefit payable to a member or beneficiary is 100% of FAS.

Cost-of-Living

The current maximum increase in retirement allowance is 3% per year for all members. The maximum is based on the change in the Consumer Price Index for the calendar year prior to the April 1 effective date.

Contribution Rates

Member

The basic rates are based on the age nearest birthday at entry into the System. The rates are such as to provide an average annuity at age 60 equal to 1/200 of FAS for General members and at age 50 equal to 1/200 of FAS for Safety members. For members integrated with Social Security, the above contributions payable with respect to the first \$350 of monthly salary are reduced by one-third. Cost-of-living rates are designed to pay for one half of the future cost-of-living costs. Member contributions are refundable upon termination from the System.

County

The County rates are actuarially determined to provide for the balance of the contributions needed to fund the benefits promised under the Retirement System.



(ii) SUMMARY OF ASSUMPTIONS AND FUNDING METHOD

Assumptions

Valuation Interest Rate	8-1/2%
Post-Retirement Mortality	
(a) Service	
General Males	1983 Male Group Annuity Mortality Table set back one year
General Females	1983 Female Group Annuity Mortality Table set forward one year
Safety	1983 Male Group Annuity Mortality Table set back one year
(b) Disability	1981 Disability Mortality Table
(c) For Employee Contribution Purposes	
General	1983 Male Group Annuity Mortality Table with a four year setback
Safety	1983 Male Group Annuity Mortality Table set back one year
Pre-Retirement Mortality	Based upon the Experience Analysis as of July 1, 1992
Withdrawal Rates	Based upon the Experience Analysis as of July 1, 1992
Disability Rates	Based upon the Experience Analysis as of July 1, 1992
Service Retirement Rates	Based upon the Experience Analysis as of July 1, 1992
Salary Scale	Total increase of approximately 6% per year. Approximately 1% of this increase is for merit and longevity and 5% is for inflation.
Assets	Valued at Book

Funding Method

The County's liability is currently being funded on the Entry Age Normal method with an Unfunded Actuarial Accrued Liability (UAAL). The amortization period for the UAAL is 18 years from the June 30, 1992 valuation date.



(iii) ANNUAL SALARY AND MEMBERSHIP DISTRIBUTION
OF ACTIVE GENERAL MEMBERS

AS OF JUNE 30, 1992

MALES

PRESENT AGE	YEARS OF SERVICE							TOTAL
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 & OVER	
BELOW	1							1
20	6,943							6,943
	44							44
20 - 24	715,313							715,313
	150	14	1					165
25 - 29	3,403,178	338,963	25,900					3,768,041
	180	59	17					256
30 - 34	4,679,270	1,719,101	481,383					6,879,754
	177	78	83	28				366
35 - 39	5,093,860	2,621,558	2,713,230	778,249				11,206,897
	153	77	92	113	20			455
40 - 44	4,346,944	2,554,554	3,412,652	4,364,168	708,086			15,386,404
	110	42	72	108	85	17		434
45 - 49	3,982,664	1,495,982	2,626,354	4,098,558	3,190,275	759,963		16,153,796
	41	33	26	43	52	31	7	233
50 - 54	1,396,574	1,295,682	962,956	1,700,801	2,078,447	1,216,098	317,758	8,968,316
	26	10	17	19	20	22	27	141
55 - 59	1,131,004	270,183	720,097	689,362	662,791	867,821	1,130,547	5,471,805
	8	14	10	6	4	4	6	52
60 - 64	167,569	491,080	280,842	248,628	114,418	137,195	253,487	1,693,219
	2	4	1		1			8
65 - 69	133,478	109,375	32,531		43,063			318,447
70 & OVER								
	892	331	319	317	182	74	40	2,155
TOTAL	25,056,797	10,896,478	11,255,945	11,879,766	6,797,080	2,981,077	1,701,792	70,568,935

AVERAGE AGE 42.00
AVERAGE SERVICE 9.50
AVERAGE ENTRY AGE 32.50



ANNUAL SALARY AND MEMBERSHIP DISTRIBUTION OF ACTIVE GENERAL MEMBERS

AS OF JUNE 30, 1992

FEMALES

PRESENT AGE	YEARS OF SERVICE							TOTAL
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 & OVER	
BELOW	1							1
20	13,808							13,808
	90	2						92
20 - 24	1,578,569	37,394						1,615,963
	296	48	2					346
25 - 29	6,244,746	1,245,850	52,294					7,542,890
	343	144	66	3				556
30 - 34	8,476,729	4,143,303	1,782,978	70,887				14,473,897
	315	167	154	57	2			695
35 - 39	8,130,724	4,706,270	4,608,397	1,685,060	47,899			19,178,350
	313	199	124	103	40	3		782
40 - 44	7,920,579	5,782,195	3,707,320	3,378,826	1,316,655	93,042		22,198,617
	188	134	88	82	55	20		567
45 - 49	4,690,306	3,936,124	2,663,635	2,872,290	1,782,677	671,942		16,616,974
	98	77	70	52	25	21	12	355
50 - 54	2,398,853	1,986,398	1,780,001	1,391,981	743,677	665,363	353,160	9,319,433
	37	48	38	31	22	11	13	200
55 - 59	801,661	1,184,336	1,143,160	873,535	634,456	335,476	400,125	5,372,749
	10	24	21	18	11	11	2	97
60 - 64	240,364	606,931	566,343	450,910	302,402	338,489	39,578	2,545,017
	4	5	8	2			1	20
65 - 69	163,513	123,792	152,240	68,572			50,864	558,981
	1		1	1	2			5
70 & OVER	72,998		24,080	19,633	61,005			177,716
	1,696	848	572	349	157	66	28	3,716
TOTAL	40,732,850	23,752,593	16,480,448	10,811,694	4,888,771	2,104,312	843,727	99,614,395

AVERAGE AGE 40.75
AVERAGE SERVICE 7.75
AVERAGE ENTRY AGE 33.00



ANNUAL SALARY AND MEMBERSHIP DISTRIBUTION OF ACTIVE SAFETY MEMBERS

AS OF JUNE 30, 1992

MALES AND FEMALES

PRESENT AGE	YEARS OF SERVICE							TOTAL
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 & OVER	
BELOW 20								
20 - 24	13 294,758							13 294,758
25 - 29	102 2,711,593	5 150,330						107 2,861,923
30 - 34	76 2,147,379	43 1,444,072	15 568,638					134 4,160,089
35 - 39	49 1,397,347	19 639,348	45 1,731,822	20 826,032				133 4,594,549
40 - 44	39 1,055,005	8 262,121	28 1,030,702	46 1,939,201	16 781,398			137 5,068,427
45 - 49	21 528,272	12 381,739	11 458,322	36 1,391,379	37 1,609,579	11 559,150		128 4,928,441
50 - 54	11 319,901	2 104,276	1 40,462	8 307,322	12 567,789	10 473,781	1 43,100	45 1,856,631
55 - 59	4 101,780		2 54,427	1 24,964	3 131,608	4 202,424	1 53,953	15 569,156
60 & OVER	1 34,949	2 49,459				1 39,688		4 124,096
TOTAL	316 8,590,984	91 3,031,345	102 3,884,373	111 4,488,898	68 3,090,374	26 1,275,043	2 97,053	716 24,458,070

AVERAGE AGE 38.50
AVERAGE SERVICE 9.25
AVERAGE ENTRY AGE 29.25



(iv) SUMMARY OF MONTHLY ALLOWANCES

AS OF JUNE 30, 1992

General Members				
Service	Number	Monthly Allowance		
		Basic	Cost of Living	Total
Unmodified	1,583	\$ 1,159,616	\$ 306,676	\$ 1,466,292
Option 1	187	80,069	27,122	107,191
Option 2 & 3	79	51,072	9,910	60,982
Total	1,849	\$ 1,290,757	\$ 343,708	\$ 1,634,465
Disability				
Unmodified	129	\$ 53,739	\$ 22,598	\$ 76,337
Option 1	11	2,671	1,488	4,159
Option 2 & 3	4	981	156	1,137
Total	144	\$ 57,391	\$ 24,242	\$ 81,633
Beneficiaries				
Total	259	\$ 82,758	\$ 37,997	\$ 120,755
Total*	2,252	\$ 1,430,906	\$ 405,947	\$ 1,836,853

Safety Members				
Service	Number	Monthly Allowance		
		Basic	Cost of Living	Total
Unmodified	144	\$ 172,987	\$ 54,972	227,959
Option 1	3	3,867	952	4,819
Option 2 & 3	6	4,747	717	5,464
Total	153	\$ 181,601	\$ 56,641	\$ 238,242
Disability				
Unmodified	30	\$ 29,556	\$ 10,078	39,634
Option 1	2	1,335	699	2,034
Option 2 & 3	0	0	0	0
Total	32	\$ 30,891	\$ 10,777	\$ 41,668
Beneficiaries				
Total	35	\$ 19,878	\$ 7,772	\$ 27,650
Total	220	\$ 232,370	\$ 75,190	\$ 307,560



(v) ANNUAL BENEFIT AND MEMBERSHIP DISTRIBUTION
OF RETIRED GENERAL MEMBERS

AS OF JUNE 30, 1992

MALES

PRESENT AGE	YEARS OF RETIREMENT							TOTAL
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 & OVER	
BELOW	5	2	1					8
45	40,600	19,635	7,273					67,508
	1	1	3	1				6
45 - 49	8,928	9,717	21,607	7,464				47,716
	27	3						30
50 - 54	250,676	28,007						278,683
	67	38	2	2				109
55 - 59	1,177,502	328,316	40,549	5,679				1,552,046
	77	61	28	3		1	1	171
60 - 64	1,588,576	850,729	248,655	32,973		5,178	1,391	2,727,502
	48	85	42	11	3	2		191
65 - 69	932,440	1,454,313	412,831	50,383	12,998	10,010		2,872,975
	8	45	87	23	12	1	1	177
70 - 74	125,050	558,104	1,248,350	150,426	49,812	21,211	1,378	2,154,331
	2	8	42	47	11			110
75 - 79	32,613	83,094	518,819	482,038	36,690			1,153,254
		1	6	27	8	4		46
80 - 84		13,722	94,797	199,109	52,008	10,769		370,405
				8	20	3	3	34
85 - 89				78,367	112,942	19,068	8,717	219,094
				1	1	5	4	11
90 & OVER				1,738	6,344	17,261	16,523	41,866
	235	244	211	123	55	16	9	893
TOTAL	4,156,385	3,345,637	2,592,881	1,008,177	270,794	83,497	28,009	11,485,380

AVERAGE AGE 68.00
AVERAGE YEARS RETIRED 10.00
AVERAGE RETIREMENT AGE 58.00



ANNUAL BENEFIT AND MEMBERSHIP DISTRIBUTION OF RETIRED GENERAL MEMBERS

AS OF JUNE 30, 1992

FEMALES

PRESENT AGE	YEARS OF RETIREMENT							TOTAL
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 & OVER	
BELOW	2	3	2	1				8
45	13,100	50,471	29,373	9,494				102,438
45 - 49	4		2	2	2			10
	22,106		6,997	9,647	10,767			49,517
50 - 54	32	7	2	3		1		45
	239,409	64,869	20,322	12,683		1,164		338,447
55 - 59	56	33	8	4	1			102
	628,101	218,794	59,012	12,688	4,247			922,842
60 - 64	94	59	33	9	7			202
	1,198,611	534,282	148,423	71,708	25,780			1,978,804
65 - 69	88	109	52	25	8		1	283
	958,428	1,132,760	361,320	124,289	32,243		1,869	2,610,909
70 - 74	17	74	105	52	9			257
	217,208	802,851	867,730	246,453	29,837			2,164,079
75 - 79	5	9	66	96	26	5	1	208
	28,786	92,215	543,762	583,740	107,482	16,798	2,821	1,375,604
80 - 84		1	8	64	50	15	3	141
		2,734	57,232	315,526	193,484	33,775	4,350	607,101
85 - 89			1	9	38	16	6	70
			8,514	35,932	175,540	44,998	20,618	285,602
90 & OVER			1	1	6	16	9	33
			2,843	8,947	14,775	65,823	28,789	121,177
TOTAL	298	295	280	266	147	53	20	1,359
	3,305,749	2,898,976	2,105,528	1,431,107	594,155	162,558	58,447	10,556,520

AVERAGE AGE 72.25
AVERAGE YEARS RETIRED 11.50
AVERAGE RETIREMENT AGE 58.75



ANNUAL BENEFIT AND MEMBERSHIP DISTRIBUTION OF RETIRED SAFETY MEMBERS

AS OF JUNE 30, 1992

MALES AND FEMALES

PRESENT AGE	YEARS OF RETIREMENT							TOTAL
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 & OVER	
BELOW	4	5	1					10
45	60,736	144,547	16,419					221,702
	18	4		1				23
45 - 49	225,376	51,693		11,008				288,077
	6	7	1	1				15
50 - 54	91,914	115,393	10,485	5,866				223,658
	14	10	3	2				29
55 - 59	389,158	159,447	22,561	27,794				598,960
	10	19	16		1			46
60 - 64	225,083	491,804	248,110		4,829			969,826
		4	19	12	3		3	41
65 - 69		187,414	325,661	140,114	23,184		61,921	738,294
			8	14	4			26
70 - 74			152,101	172,483	19,035			343,619
				7	11			18
75 - 79				69,102	141,732			210,834
				1	4	1		6
80 - 84				9,088	36,138	2,766		47,992
		1		1	3			5
85 - 89		5,088		4,054	36,313			45,455
90 & OVER							1 2,296	1 2,296
TOTAL	52 992,267	50 1,155,386	48 775,337	39 439,509	26 261,231	1 2,766	4 64,217	220 3,690,713

AVERAGE AGE 62.75
AVERAGE YEARS RETIRED 11.25
AVERAGE RETIREMENT AGE 51.50



(vi) PROBABILITIES OF SEPARATION PRIOR TO RETIREMENT

GENERAL MALE MEMBERS

<u>Age</u>	<u>Withdrawal</u>	<u>Ordinary Death</u>	<u>Ordinary Disability</u>	<u>Service</u>	<u>Death While Eligible</u>	<u>Duty Death</u>	<u>Duty Disability</u>	<u>Terminated Vested</u>
20	.1600	.0002	.0000	.0000	.0000	.0001	.0001	.0005
21	.1600	.0002	.0000	.0000	.0000	.0001	.0001	.0005
22	.1600	.0002	.0000	.0000	.0000	.0001	.0001	.0010
23	.1600	.0002	.0000	.0000	.0000	.0001	.0001	.0015
24	.1600	.0002	.0000	.0000	.0000	.0001	.0001	.0020
25	.1600	.0003	.0001	.0000	.0001	.0001	.0002	.0025
26	.1600	.0003	.0001	.0000	.0001	.0001	.0002	.0030
27	.1600	.0003	.0001	.0000	.0001	.0001	.0002	.0040
28	.1600	.0003	.0001	.0000	.0001	.0001	.0002	.0050
29	.1600	.0003	.0001	.0000	.0001	.0001	.0002	.0060
30	.1600	.0004	.0001	.0000	.0001	.0001	.0002	.0070
31	.1300	.0004	.0001	.0000	.0001	.0001	.0002	.0080
32	.1000	.0004	.0001	.0000	.0001	.0001	.0002	.0090
33	.0800	.0004	.0002	.0000	.0002	.0001	.0002	.0100
34	.0700	.0004	.0002	.0000	.0002	.0001	.0002	.0120
35	.0600	.0005	.0002	.0000	.0002	.0001	.0003	.0150
36	.0550	.0005	.0002	.0000	.0002	.0001	.0003	.0175
37	.0500	.0005	.0003	.0000	.0002	.0001	.0003	.0190
38	.0460	.0005	.0003	.0000	.0002	.0001	.0003	.0215
39	.0420	.0006	.0004	.0000	.0002	.0001	.0003	.0225
40	.0390	.0006	.0005	.0000	.0003	.0001	.0004	.0230
41	.0360	.0006	.0006	.0000	.0003	.0001	.0004	.0230
42	.0330	.0007	.0007	.0000	.0003	.0001	.0004	.0230
43	.0300	.0007	.0008	.0000	.0004	.0001	.0005	.0220
44	.0270	.0008	.0009	.0000	.0004	.0001	.0005	.0210
45	.0230	.0008	.0011	.0000	.0005	.0001	.0006	.0200
46	.0190	.0009	.0013	.0000	.0005	.0001	.0007	.0190
47	.0150	.0010	.0015	.0000	.0006	.0001	.0008	.0180
48	.0120	.0011	.0017	.0000	.0006	.0001	.0009	.0160
49	.0090	.0012	.0019	.0000	.0007	.0001	.0010	.0140
50	.0090	.0013	.0021	.0400	.0008	.0001	.0011	.0120
51	.0090	.0014	.0023	.0300	.0009	.0001	.0013	.0100
52	.0090	.0015	.0026	.0200	.0010	.0002	.0015	.0080
53	.0090	.0016	.0029	.0200	.0011	.0002	.0017	.0070
54	.0090	.0017	.0032	.0400	.0012	.0002	.0019	.0065
55	.0090	.0018	.0035	.0600	.0013	.0002	.0021	.0065
56	.0090	.0019	.0038	.0700	.0014	.0002	.0023	.0065
57	.0090	.0020	.0040	.0850	.0015	.0002	.0025	.0065
58	.0090	.0021	.0042	.1000	.0016	.0002	.0027	.0065
59	.0090	.0022	.0043	.1300	.0017	.0003	.0029	.0065
60	.0090	.0024	.0044	.1500	.0018	.0003	.0031	.0060
61	.0090	.0026	.0045	.1800	.0019	.0003	.0032	.0050
62	.0090	.0028	.0046	.4000	.0020	.0003	.0033	.0040
63	.0090	.0030	.0047	.2400	.0022	.0003	.0034	.0030
64	.0090	.0032	.0048	.2500	.0024	.0004	.0035	.0020
65	.0000	.0034	.0000	.3500	.0027	.0004	.0000	.0000
66	.0000	.0036	.0000	.3000	.0030	.0004	.0000	.0000
67	.0000	.0038	.0000	.3000	.0034	.0004	.0000	.0000
68	.0000	.0040	.0000	.4500	.0039	.0004	.0000	.0000
69	.0000	.0042	.0000	.6000	.0045	.0004	.0000	.0000
70	.0000	.0000	.0000	1.0000	.0000	.0000	.0000	.0000



PROBABILITIES OF SEPARATION PRIOR TO RETIREMENT

GENERAL FEMALE MEMBERS

Age	Withdrawal	Ordinary Death	Ordinary Disability	Service	Death While Eligible	Duty Death	Duty Disability	Terminated Vested
20	.1800	.0001	.0000	.0000	.0000	.0000	.0001	.0030
21	.1800	.0001	.0000	.0000	.0000	.0000	.0001	.0030
22	.1800	.0001	.0000	.0000	.0000	.0000	.0001	.0030
23	.1800	.0001	.0000	.0000	.0000	.0000	.0001	.0030
24	.1800	.0001	.0000	.0000	.0000	.0000	.0001	.0050
25	.1700	.0002	.0001	.0000	.0001	.0000	.0002	.0050
26	.1700	.0002	.0001	.0000	.0001	.0000	.0002	.0050
27	.1700	.0002	.0001	.0000	.0001	.0000	.0002	.0050
28	.1600	.0002	.0001	.0000	.0001	.0000	.0002	.0050
29	.1600	.0003	.0001	.0000	.0001	.0000	.0002	.0050
30	.1500	.0003	.0001	.0000	.0001	.0000	.0002	.0050
31	.1400	.0003	.0001	.0000	.0001	.0000	.0002	.0050
32	.1300	.0003	.0001	.0000	.0001	.0000	.0002	.0050
33	.1200	.0004	.0001	.0000	.0001	.0000	.0002	.0050
34	.1100	.0004	.0001	.0000	.0001	.0000	.0002	.0100
35	.1000	.0004	.0002	.0000	.0001	.0000	.0003	.0180
36	.0900	.0005	.0002	.0000	.0001	.0000	.0003	.0220
37	.0800	.0005	.0002	.0000	.0001	.0000	.0003	.0220
38	.0700	.0005	.0003	.0000	.0001	.0000	.0003	.0200
39	.0650	.0005	.0003	.0000	.0001	.0000	.0003	.0190
40	.0550	.0006	.0003	.0000	.0001	.0000	.0003	.0185
41	.0480	.0006	.0004	.0000	.0001	.0000	.0003	.0180
42	.0420	.0006	.0004	.0000	.0001	.0000	.0003	.0175
43	.0380	.0007	.0005	.0000	.0001	.0000	.0004	.0175
44	.0350	.0007	.0005	.0000	.0001	.0000	.0004	.0170
45	.0320	.0007	.0006	.0000	.0002	.0000	.0004	.0170
46	.0300	.0008	.0007	.0000	.0002	.0000	.0004	.0165
47	.0290	.0008	.0008	.0000	.0002	.0000	.0005	.0160
48	.0280	.0009	.0009	.0000	.0002	.0000	.0005	.0155
49	.0270	.0009	.0010	.0000	.0003	.0000	.0005	.0145
50	.0260	.0010	.0011	.0400	.0003	.0000	.0006	.0130
51	.0250	.0010	.0012	.0300	.0003	.0000	.0006	.0110
52	.0240	.0011	.0013	.0300	.0004	.0000	.0007	.0090
53	.0230	.0011	.0014	.0300	.0004	.0000	.0008	.0070
54	.0220	.0012	.0015	.0300	.0004	.0000	.0009	.0050
55	.0210	.0012	.0016	.0800	.0004	.0000	.0010	.0050
56	.0190	.0013	.0017	.0300	.0005	.0000	.0011	.0080
57	.0170	.0014	.0018	.0800	.0005	.0000	.0012	.0070
58	.0150	.0015	.0019	.1000	.0005	.0000	.0013	.0060
59	.0140	.0016	.0021	.1200	.0006	.0000	.0015	.0050
60	.0130	.0018	.0023	.1400	.0006	.0000	.0017	.0050
61	.0130	.0019	.0025	.1000	.0006	.0000	.0019	.0050
62	.0130	.0020	.0027	.3000	.0007	.0000	.0021	.0050
63	.0130	.0021	.0029	.1250	.0007	.0000	.0023	.0050
64	.0130	.0022	.0031	.1250	.0007	.0000	.0025	.0050
65	.0000	.0024	.0000	.4500	.0008	.0000	.0000	.0000
66	.0000	.0025	.0000	.2000	.0008	.0000	.0000	.0000
67	.0000	.0026	.0000	.3000	.0008	.0000	.0000	.0000
68	.0000	.0027	.0000	.3000	.0009	.0000	.0000	.0000
69	.0000	.0028	.0000	.3000	.0009	.0000	.0000	.0000
70	.0000	.0000	.0000	1.0000	.0000	.0000	.0000	.0000



PROBABILITIES OF SEPARATION PRIOR TO RETIREMENT

SAFETY MEMBERS

<u>Age</u>	<u>Withdrawal</u>	Ordinary <u>Death</u>	Ordinary <u>Disability</u>	<u>Service</u>	Death While <u>Eligible</u>	Duty <u>Death</u>	Duty <u>Disability</u>	Terminated <u>Vested</u>
20	.0950	.0002	.0000	.0000	.0000	.0002	.0006	.0010
21	.0920	.0002	.0000	.0000	.0000	.0002	.0006	.0011
22	.0890	.0002	.0000	.0000	.0000	.0002	.0006	.0012
23	.0860	.0002	.0000	.0000	.0000	.0002	.0007	.0013
24	.0830	.0002	.0000	.0000	.0000	.0002	.0007	.0014
25	.0800	.0003	.0002	.0000	.0001	.0003	.0008	.0020
26	.0770	.0003	.0002	.0000	.0001	.0003	.0009	.0030
27	.0740	.0003	.0003	.0000	.0002	.0003	.0010	.0050
28	.0710	.0003	.0003	.0000	.0002	.0003	.0011	.0100
29	.0680	.0003	.0003	.0000	.0002	.0003	.0012	.0170
30	.0640	.0004	.0003	.0000	.0002	.0004	.0013	.0250
31	.0600	.0004	.0004	.0000	.0002	.0004	.0014	.0340
32	.0560	.0004	.0004	.0000	.0002	.0004	.0016	.0300
33	.0510	.0004	.0004	.0000	.0002	.0004	.0018	.0270
34	.0460	.0004	.0005	.0000	.0002	.0004	.0021	.0240
35	.0410	.0005	.0006	.0000	.0002	.0005	.0023	.0220
36	.0360	.0005	.0006	.0000	.0002	.0005	.0025	.0200
37	.0310	.0005	.0007	.0000	.0002	.0005	.0028	.0180
38	.0260	.0005	.0008	.0000	.0002	.0005	.0031	.0160
39	.0210	.0005	.0009	.0000	.0002	.0005	.0035	.0140
40	.0170	.0006	.0010	.0000	.0003	.0006	.0039	.0120
41	.0140	.0006	.0010	.0000	.0003	.0006	.0043	.0100
42	.0120	.0006	.0011	.0000	.0003	.0006	.0047	.0080
43	.0100	.0007	.0012	.0000	.0003	.0007	.0052	.0060
44	.0080	.0007	.0012	.0000	.0003	.0007	.0058	.0040
45	.0070	.0008	.0013	.0450	.0004	.0008	.0064	.0030
46	.0060	.0008	.0014	.0350	.0004	.0008	.0071	.0020
47	.0050	.0009	.0014	.0400	.0005	.0009	.0079	.0010
48	.0040	.0009	.0015	.0450	.0006	.0009	.0088	.0008
49	.0030	.0010	.0016	.0500	.0007	.0010	.0097	.0005
50	.0000	.0010	.0016	.1000	.0008	.0010	.0106	.0000
51	.0000	.0011	.0017	.0700	.0009	.0011	.0115	.0000
52	.0000	.0011	.0018	.0700	.0010	.0012	.0125	.0000
53	.0000	.0012	.0019	.0800	.0011	.0013	.0135	.0000
54	.0000	.0012	.0020	.1000	.0012	.0013	.0145	.0000
55	.0000	.0013	.0020	.2700	.0013	.0014	.0155	.0000
56	.0000	.0013	.0021	.2700	.0014	.0015	.0165	.0000
57	.0000	.0014	.0022	.2500	.0015	.0016	.0175	.0000
58	.0000	.0014	.0022	.3000	.0016	.0017	.0185	.0000
59	.0000	.0015	.0023	.7000	.0017	.0018	.0195	.0000
60	.0000	.0000	.0000	1.0000	.0000	.0000	.0000	.0000



(vii) MEMBER CONTRIBUTION RATES*

GENERAL - SECTION 31676.12

ENTRY AGE	Basic		C.O.L.**		Basic and C.O.L.	
	First \$350 of Monthly Compensation	Excess of Monthly Compensation Over \$350	First \$350 of Monthly Compensation	Excess of Monthly Compensation Over \$350	First \$350 of Monthly Compensation	Excess of Monthly Compensation Over \$350
16	1.79%	2.69%	.68%	1.03%	2.47%	3.72%
17	1.81	2.71	.69	1.03	2.50	3.74
18	1.82	2.73	.70	1.04	2.52	3.77
19	1.83	2.75	.70	1.05	2.53	3.80
20	1.85	2.77	.71	1.06	2.56	3.83
21	1.86	2.79	.71	1.07	2.57	3.86
22	1.87	2.81	.71	1.07	2.58	3.88
23	1.89	2.83	.72	1.08	2.61	3.91
24	1.91	2.86	.73	1.09	2.64	3.95
25	1.93	2.89	.74	1.10	2.67	3.99
26	1.95	2.92	.74	1.12	2.69	4.04
27	1.97	2.96	.75	1.13	2.72	4.09
28	2.00	3.00	.76	1.15	2.76	4.15
29	2.03	3.04	.78	1.16	2.81	4.20
30	2.05	3.08	.78	1.18	2.83	4.26
31	2.09	3.13	.80	1.20	2.89	4.33
32	2.11	3.17	.81	1.21	2.92	4.38
33	2.15	3.22	.82	1.23	2.97	4.45
34	2.19	3.28	.84	1.25	3.03	4.53
35	2.22	3.33	.85	1.27	3.07	4.60
36	2.25	3.38	.86	1.29	3.11	4.67
37	2.29	3.43	.87	1.31	3.16	4.74
38	2.32	3.48	.89	1.33	3.21	4.81
39	2.36	3.54	.90	1.35	3.26	4.89
40	2.39	3.59	.91	1.37	3.30	4.96
41	2.43	3.64	.93	1.39	3.36	5.03
42	2.47	3.70	.94	1.41	3.41	5.11
43	2.51	3.76	.96	1.44	3.47	5.20
44	2.54	3.81	.97	1.46	3.51	5.27
45	2.58	3.87	.99	1.48	3.57	5.35
46	2.62	3.93	1.00	1.50	3.62	5.43
47	2.66	3.99	1.02	1.52	3.68	5.51
48	2.70	4.05	1.03	1.55	3.73	5.60
49	2.73	4.10	1.04	1.57	3.77	5.67
50	2.77	4.16	1.06	1.59	3.83	5.75
51	2.81	4.22	1.07	1.61	3.88	5.83
52	2.86	4.29	1.09	1.64	3.95	5.93
53	2.90	4.35	1.11	1.66	4.01	6.01
54	2.94	4.41	1.12	1.68	4.06	6.09
55	2.98	4.47	1.14	1.71	4.12	6.18
56	3.03	4.54	1.16	1.73	4.19	6.27
57	3.07	4.60	1.17	1.76	4.24	6.36
58	3.11	4.67	1.19	1.78	4.30	6.45
59 & Over	3.15	4.73	1.20	1.81	4.35	6.54

*As a percentage of salary based upon 8.50% interest and 6.00% salary scale assumptions.

**38.19% of basic rates.



MEMBER CONTRIBUTION RATES*

GENERAL - SECTION 31676.12

ENTRY AGE	Basic		C.O.L.		Basic and C.O.L.	
	First \$350 of Monthly Compensation	Excess of Monthly Compensation Over \$350	First \$350 of Monthly Compensation	Excess of Monthly Compensation Over \$350	First \$350 of Monthly Compensation	Excess of Monthly Compensation Over \$350
16	1.22%	2.47%	.00%	.00%	1.22%	2.47%
17	1.25	2.49	.00	.00	1.25	2.49
18	1.27	2.52	.00	.00	1.27	2.52
19	1.28	2.55	.00	.00	1.28	2.55
20	1.31	2.58	.00	.00	1.31	2.58
21	1.32	2.61	.00	.00	1.32	2.61
22	1.33	2.63	.00	.00	1.33	2.63
23	1.36	2.66	.00	.00	1.36	2.66
24	1.39	2.70	.00	.00	1.39	2.70
25	1.42	2.74	.00	.00	1.42	2.74
26	1.44	2.79	.00	.00	1.44	2.79
27	1.47	2.84	.00	.00	1.47	2.84
28	1.51	2.90	.00	.00	1.51	2.90
29	1.56	2.95	.00	.00	1.56	2.95
30	1.58	3.01	.00	.00	1.58	3.01
31	1.64	3.08	.00	.00	1.64	3.08
32	1.67	3.13	.00	.00	1.67	3.13
33	1.72	3.20	.00	.00	1.72	3.20
34	1.78	3.28	.00	.00	1.78	3.28
35	1.82	3.33	.00	.02	1.82	3.35
36	1.86	3.38	.00	.04	1.86	3.42
37	1.91	3.43	.00	.06	1.91	3.49
38	1.96	3.48	.00	.08	1.96	3.56
39	2.01	3.54	.00	.10	2.01	3.64
40	2.05	3.59	.00	.12	2.05	3.71
41	2.11	3.64	.00	.14	2.11	3.78
42	2.16	3.70	.00	.16	2.16	3.86
43	2.22	3.76	.00	.19	2.22	3.95
44	2.26	3.81	.00	.21	2.26	4.02
45	2.32	3.87	.00	.23	2.32	4.10
46	2.37	3.93	.00	.25	2.37	4.18
47	2.43	3.99	.00	.27	2.43	4.26
48	2.48	4.05	.00	.30	2.48	4.35
49	2.52	4.10	.00	.32	2.52	4.42
50	2.58	4.16	.00	.34	2.58	4.50
51	2.63	4.22	.00	.36	2.63	4.58
52	2.70	4.29	.00	.39	2.70	4.68
53	2.76	4.35	.00	.41	2.76	4.76
54	2.81	4.41	.00	.43	2.81	4.84
55	2.87	4.47	.00	.46	2.87	4.93
56	2.94	4.54	.00	.48	2.94	5.02
57	2.99	4.60	.00	.51	2.99	5.11
58	3.05	4.67	.00	.53	3.05	5.20
59 & Over	3.10	4.73	.00	.56	3.10	5.29

* As a percentage of salary based upon 8.50% interest and 6.00% salary scale assumptions.

Note: These rates reflect the 7/1/89 transfer of \$5,000,000 from Undistributed Earnings.



MEMBER CONTRIBUTION RATES*

SAFETY - SECTION 31664

ENTRY AGE	Basic		C.O.L.**		Basic and C.O.L.	
	First \$350 of Monthly Compensation	Excess of Monthly Compensation Over \$350	First \$350 of Monthly Compensation	Excess of Monthly Compensation Over \$350	First \$350 of Monthly Compensation	Excess of Monthly Compensation Over \$350
18	2.28%	3.42%	.87%	1.31%	3.15%	4.73%
19	2.29	3.44	.87	1.31	3.16	4.75
20	2.31	3.47	.88	1.33	3.19	4.80
21	2.33	3.50	.89	1.34	3.22	4.84
22	2.36	3.54	.90	1.35	3.26	4.89
23	2.39	3.58	.91	1.37	3.30	4.95
24	2.41	3.62	.92	1.38	3.33	5.00
25	2.45	3.67	.94	1.40	3.39	5.07
26	2.47	3.71	.94	1.42	3.41	5.13
27	2.51	3.76	.96	1.44	3.47	5.20
28	2.53	3.80	.97	1.45	3.50	5.25
29	2.57	3.85	.98	1.47	3.55	5.32
30	2.60	3.90	.99	1.49	3.59	5.39
31	2.64	3.96	1.01	1.51	3.65	5.47
32	2.67	4.01	1.02	1.53	3.69	5.54
33	2.71	4.07	1.03	1.55	3.74	5.62
34	2.75	4.12	1.05	1.57	3.80	5.69
35	2.79	4.18	1.07	1.60	3.86	5.78
36	2.83	4.24	1.08	1.62	3.91	5.86
37	2.87	4.30	1.10	1.64	3.97	5.94
38	2.91	4.37	1.11	1.67	4.02	6.04
39	2.95	4.43	1.13	1.69	4.08	6.12
40	3.00	4.50	1.15	1.72	4.15	6.22
41	3.04	4.56	1.16	1.74	4.20	6.30
42	3.09	4.63	1.18	1.77	4.27	6.40
43	3.13	4.70	1.20	1.79	4.33	6.49
44	3.17	4.76	1.21	1.82	4.38	6.58
45	3.22	4.83	1.23	1.84	4.45	6.67
46	3.27	4.90	1.25	1.87	4.52	6.77
47	3.31	4.97	1.26	1.90	4.57	6.87
48	3.36	5.04	1.28	1.92	4.64	6.96
49 & Over	3.41	5.11	1.30	1.95	4.71	7.06

* As a percentage of salary based upon 8.50% interest and 6.00% salary scale assumptions.

**38.19% of basic rates.



MEMBER CONTRIBUTION RATES*

SAFETY - SECTION 31664

ENTRY AGE	Basic		C.O.L		Basic and C.O.L.	
	First \$350 of Monthly Compensation	Excess of Monthly Compensation Over \$350	First \$350 of Monthly Compensation	Excess of Monthly Compensation Over \$350	First \$350 of Monthly Compensation	Excess of Monthly Compensation Over \$350
18	1.90%	3.42%	.00%	.06%	1.90%	3.48%
19	1.91	3.44	.00	.06	1.91	3.50
20	1.94	3.47	.00	.08	1.94	3.55
21	1.97	3.50	.00	.09	1.97	3.59
22	2.01	3.54	.00	.10	2.01	3.64
23	2.05	3.58	.00	.12	2.05	3.70
24	2.08	3.62	.00	.13	2.08	3.75
25	2.14	3.67	.00	.15	2.14	3.82
26	2.16	3.71	.00	.17	2.16	3.88
27	2.22	3.76	.00	.19	2.22	3.95
28	2.25	3.80	.00	.20	2.25	4.00
29	2.30	3.85	.00	.22	2.30	4.07
30	2.34	3.90	.00	.24	2.34	4.14
31	2.40	3.96	.00	.26	2.40	4.22
32	2.44	4.01	.00	.28	2.44	4.29
33	2.49	4.07	.00	.30	2.49	4.37
34	2.55	4.12	.00	.32	2.55	4.44
35	2.61	4.18	.00	.35	2.61	4.53
36	2.66	4.24	.00	.37	2.66	4.61
37	2.72	4.30	.00	.39	2.72	4.69
38	2.77	4.37	.00	.42	2.77	4.79
39	2.83	4.43	.00	.44	2.83	4.87
40	2.90	4.50	.00	.47	2.90	4.97
41	2.95	4.56	.00	.49	2.95	5.05
42	3.02	4.63	.00	.52	3.02	5.15
43	3.08	4.70	.00	.54	3.08	5.24
44	3.13	4.76	.00	.57	3.13	5.33
45	3.20	4.83	.00	.59	3.20	5.42
46	3.27	4.90	.00	.62	3.27	5.52
47	3.31	4.97	.01	.65	3.32	5.62
48	3.36	5.04	.03	.67	3.39	5.71
49 & Over	3.41	5.11	.05	.70	3.46	5.81

*As a percentage of salary based upon 8.50% interest and 6.00% salary scale assumptions.
 Note: These rates reflect the 7/1/89 transfer of \$5,000,000 from Undistributed Earnings.



(viii) ACCOUNTING BALANCE SHEET

AS OF JUNE 30, 1992

ASSETS

1. Cash and cash equivalents	\$ 88,591,000
2. Contributions and other receivables	1,871,000
3. Investments*	532,877,000
4. Interest and dividends receivable	5,234,000
5. Trades receivable	40,631,000
6. Other assets	<u>11,000</u>
7. Total Assets	\$ 669,215,000

LIABILITIES AND FUND BALANCE

8. Members' deposit reserve		
a. Normal contributions	\$ 80,244,000	
b. Cost-of-living contributions	<u>53,873,000</u>	
		\$ 134,117,000
9. Current service advance reserve		97,401,000
10. Current service pension reserve		165,506,000
11. Annuity reserve		32,851,000
12. Survivors' death benefit reserve		2,375,000
13. Cost-of-living reserve		127,357,000
14. Supplemental cost-of-living reserve		5,990,000
15. Reserve for interest fluctuation		6,257,000
16. Retiree health insurance reserve		22,685,000
17. Undistributed earnings		31,185,000
18. Accounts payable		952,000
19. Trades payable		<u>42,539,000</u>
20. Total Liabilities		\$ 669,215,000

* At Cost.



(ix) RATIO OF CURRENT COMPENSATION TO
COMPENSATION ANTICIPATED AT RETIREMENT AGE

Age	GENERAL MEMBERS		SAFETY MEMBERS	
	Study #1	Study #2	Study #1	Study #2
20	.049	.055	.098	.108
21	.055	.061	.106	.117
22	.060	.067	.114	.125
23	.066	.074	.123	.134
24	.072	.080	.131	.143
25	.078	.087	.140	.153
26	.085	.094	.150	.162
27	.091	.101	.159	.173
28	.098	.109	.170	.183
29	.106	.117	.181	.195
30	.113	.124	.192	.207
31	.121	.133	.204	.219
32	.129	.141	.217	.232
33	.136	.149	.230	.246
34	.144	.157	.244	.260
35	.152	.165	.259	.275
36	.160	.173	.274	.290
37	.169	.183	.290	.306
38	.178	.193	.306	.322
39	.188	.203	.323	.339
40	.199	.213	.340	.357
41	.210	.225	.359	.376
42	.221	.237	.379	.396
43	.233	.249	.400	.417
44	.247	.262	.423	.439
45	.260	.276	.445	.461
46	.275	.291	.471	.487
47	.290	.306	.497	.513
48	.306	.322	.524	.539
49	.322	.338	.553	.568
50	.340	.357	.583	.597
51	.360	.376	.616	.629
52	.379	.395	.650	.662
53	.400	.416	.686	.697
54	.422	.438	.724	.734
55	.446	.462	.764	.773
56	.470	.486	.806	.814
57	.496	.512	.852	.858
58	.523	.539	.898	.902
59	.553	.568	.948	.950
60	.583	.597	1.000	1.000
61	.615	.628		
62	.650	.662		
63	.686	.697		
64	.724	.734		
65	.764	.773		
66	.806	.814		
67	.851	.857		
68	.898	.902		
69	.948	.950		
70	1.000	1.000		

Study #1 = 8.50% interest with salary scale of merit and longevity plus 5.00% for inflation.
Study #2 = 8.25% interest with salary scale of merit and longevity plus 4.75% for inflation.



(x) YEARS OF LIFE EXPECTANCY AFTER SERVICE RETIREMENT

GENERAL AND SAFETY MEMBERS

Age	Male	Female	Age	Male	Female
50	30.08	33.97	80	8.10	9.63
51	29.18	33.03	81	7.64	9.09
52	28.30	32.10	82	7.21	8.57
53	27.42	31.16	83	6.81	8.06
54	26.55	30.23	84	6.43	7.58
55	25.68	29.31	85	6.07	7.11
56	24.82	28.39	86	5.73	6.66
57	23.97	27.48	87	5.41	6.23
58	23.13	26.57	88	5.10	5.81
59	22.29	25.67	89	4.82	5.40
60	21.46	24.78	90	4.54	5.02
61	20.64	23.89	91	4.28	4.66
62	19.83	23.01	92	4.04	4.31
63	19.02	22.15	93	3.80	3.98
64	18.23	21.28	94	3.58	3.67
65	17.45	20.43	95	3.37	3.37
66	16.69	19.59	96	3.16	3.10
67	15.95	18.76	97	2.98	2.84
68	15.23	17.94	98	2.80	2.59
69	14.52	17.13	99	2.62	2.36
70	13.84	16.34	100	2.45	2.14
71	13.18	15.56	101	2.28	1.93
72	12.54	14.81	102	2.11	1.74
73	11.92	14.08	103	1.95	1.55
74	11.31	13.37	104	1.78	1.37
75	10.72	12.69	105	1.61	1.19
76	10.15	12.03	106	1.43	1.03
77	9.60	11.39	107	1.26	0.87
78	9.08	10.78	108	1.09	0.71
79	8.57	10.20	109	0.92	0.50

1983 GA (x - 1) (y + 1)



(xi) YEARS OF LIFE EXPECTANCY AFTER DISABILITY RETIREMENT

GENERAL MEMBERS

Age	Male & Female	Age	Male & Female	Age	Male & Female
20	38.73	50	21.08	80	7.00
21	37.98	51	20.59	81	6.63
22	37.26	52	20.11	82	6.37
23	36.56	53	19.63	83	5.94
24	35.87	54	19.13	84	5.63
25	35.19	55	18.68	85	5.34
26	34.53	56	18.21	86	5.06
27	33.87	57	17.75	87	4.80
28	33.23	58	17.29	88	4.55
29	32.60	59	16.83	89	4.31
30	31.98	60	16.37	90	4.09
31	31.37	61	15.91	91	3.87
32	30.76	62	15.45	92	3.66
33	30.17	63	14.99	93	3.46
34	29.58	64	14.53	94	3.26
35	29.00	65	14.07	95	3.07
36	28.43	66	13.60	96	2.89
37	27.87	67	13.13	97	2.71
38	27.31	68	12.66	98	2.54
39	26.76	69	12.18	99	2.37
40	26.21	70	11.70	100	2.20
41	25.67	71	11.21	101	2.04
42	25.14	72	10.72	102	1.88
43	24.61	73	10.22	103	1.72
44	24.09	74	9.73	104	1.55
45	23.57	75	9.24	105	1.38
46	23.06	76	8.76	106	1.21
47	22.56	77	8.28	107	1.04
48	22.06	78	7.83	108	0.88
49	21.57	79	7.41	109	0.71
				110	0.50

1981 Disability Table (General)



YEARS OF LIFE EXPECTANCY AFTER DISABILITY RETIREMENT

SAFETY MEMBERS

Age	Male & Female	Age	Male & Female	Age	Male & Female
20	49.29	50	23.59	80	7.00
21	48.39	51	22.80	81	6.63
22	47.48	52	22.03	82	6.37
23	46.58	53	21.26	83	5.94
24	45.68	54	20.50	84	5.63
25	44.79	55	19.77	85	5.34
26	43.89	56	19.06	86	5.06
27	43.01	57	18.40	87	4.80
28	42.12	58	17.78	88	4.55
29	41.24	59	17.20	89	4.31
30	40.36	60	16.64	90	4.09
31	39.48	61	16.11	91	3.87
32	38.61	62	15.59	92	3.66
33	37.74	63	15.08	93	3.46
34	36.88	64	14.58	94	3.26
35	36.02	65	14.07	95	3.07
36	35.16	66	13.60	96	2.89
37	34.31	67	13.13	97	2.71
38	33.45	68	12.66	98	2.54
39	32.61	69	12.18	99	2.37
40	31.77	70	11.70	100	2.20
41	30.93	71	11.21	101	2.04
42	30.09	72	10.72	102	1.88
43	29.26	73	10.22	103	1.72
44	28.43	74	9.73	104	1.55
45	27.61	75	9.24	105	1.38
46	26.80	76	8.76	106	1.21
47	25.98	77	8.28	107	1.04
48	25.18	78	7.83	108	0.88
49	24.38	79	7.41	109	0.71
				110	0.50

1981 Disability Table (Safety)

