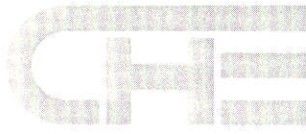


ACTUARIAL REPORT
EMPLOYEES' RETIREMENT ASSOCIATION
OF THE
COUNTY OF FRESNO

Prepared for the Board of Retirement
as of June 30, 1984



COATES
HERFURTH &
ENGLAND, INC.
ACTUARIES AND CONSULTANTS

March 21, 1985

Board of Retirement
County Employees' Retirement Association
County of Fresno
Fresno, California

Ladies and Gentlemen:

Pursuant to our agreement, we have completed an actuarial valuation and investigation of the County's Retirement System as of June 30, 1984. Various special studies were also performed, as requested. Included within this report is our study on the long term liability effect of the payment of health insurance premiums for the retired members. Under separate cover and to follow shortly are the studies involving (1) possible one time additional cost of living increases to present retired persons (Section 31681.80) and (2) possible adoption of Senate Bill 650. We are pleased to hand you herewith our report on the results of the survey.

The study was based upon financial statements and employee data furnished by the Retirement Office.

This report describes in detail both the results and the recommendations arising from our study. It also compares these results with two additional valuations made based on economic assumptions which are different than those of the main study.

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,

COATES, HERFURTH & ENGLAND, INC.
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Enclosure

EMPLOYEES" RETIREMENT ASSOCIATION
OF THE
COUNTY OF FRESNO
June 30, 1984
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REPORT ANALYSIS

SECTION I

EMPLOYEES' RETIREMENT ASSOCIATION
OF THE
COUNTY OF FRESNO

Introduction

We were requested to perform an actuarial investigation and valuation of the Retirement System as of June 30, 1984, using the latest statistical information available as to the active, inactive and retired membership. Special studies were also requested and have been performed.

The results presented herein are based upon the unaudited data as supplied to Coates, Herfurth & England, Inc. 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 varying sets of salary scale and interest assumptions in order to point out the effects of inflation upon the contribution requirements of the System.

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, as well as the basis of FASB Statement #35. We believe that the use of either ratio 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.

COUNTY OF FRESNOHighlights of Actuarial Data

Our April 8, 1982 and July 1, 1984 actuarial valuations of your System were based on the following data:

	<u>April 8, 1982</u>	<u>July 1, 1984</u>	<u>Percentage Increase (decrease) during the period</u>
<u>Active Members</u>			
Number	5,529	5,398	(2%)
Total annual payroll	\$107,047,000	\$115,770,000	8%
Average monthly salary	\$ 1,613	\$ 1,787	11%
<u>Retired Members</u>			
Number	1,596	1,780	12%
Total annual pension roll (basic)	\$ 7,506,000	\$ 9,818,000	31%
Average monthly allowance (basic)	\$ 392	\$ 460	17%
Total annual pension roll (basic and C.O.L.)	\$ 8,530,000	\$ 11,678,000	37%
Average monthly allowance (basic and C.O.L.)	\$ 445	\$ 547	23%
<u>Inactive Vested Members</u>			
Number	320	337	5%
<u>Assets</u>			
Total assets at Book Value	\$172,684,000	\$245,564,000	42%

EXPERIENCE ANALYSIS

SECTION II

EMPLOYEES' RETIREMENT ASSOCIATION
OF THE
COUNTY OF FRESNO

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 probability of members leaving the System because of non-vested 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, 1982 through June 30, 1984. 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.

The findings and adjustments made with regard to these rates are discussed in the following paragraphs.

Non-Vested Withdrawal

As a result of the active investigation, it was found that the actual number of non-vested withdrawals for Safety members was lower than expected. The rates of withdrawal were reduced to reflect this experience. For both General male and female members, no adjustments were required in the rates of withdrawal at this time.

A decrease in withdrawal rates results in additional costs to the System.

Service Retirement

The investigation of the System's actual experience indicated a continuing trend toward earlier retirement for the General and Safety members. We have reflected these results in the revised recommended rates of service retirement.

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

Disability Retirement

During the investigation period, the incidence of ordinary (non-service connected) disability closely reflected the expected levels for both General and Safety members. Based on this experience, no adjustments were made in ordinary disability rates.

The actual number of duty disabilities was slightly lower than that expected for General female members, resulting in reduced rates for this group. No changes were needed in the duty disability rates for General male or Safety members.

A decrease in disability rates results in lower costs to the System.

Death Before Retirement

The incidence of ordinary death, duty death, and death while eligible compared favorably with that expected for both General and Safety members. As a result, all rates for active death remain unchanged.

Deferred Retirement

The experience analysis showed that the probabilities of vested withdrawal or reciprocities for the General members should be reduced for both the males and the females.

For Safety members, rates of deferred retirement were not changed.

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 new set of assumptions. This exhibit makes it much easier to visualize the meaning of the probabilities of separation from the System. The rates used to develop Exhibit 1 are summarized in Section IV (v) of this report.

Post Retirement Mortality

Mortality after Service Retirement

At the time of the last actuarial study of the Retirement System, the 1971 Group Annuity Mortality Table with no age setback for males and a one-year setback for females was used as the basis for mortality after service retirement. Based on these tables, we expected 4 Safety member deaths and 84 General member and beneficiary deaths during the two-year investigation period. The actual numbers were 3 and 82, respectively.

Based on this experience and on that of the other Counties we serve, we have continued using the current mortality tables. The life expectancies based on these tables are shown in Section IV (ix).

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.

The expected number of deaths of retired disabled members for the two years under investigation was 1 for Safety and 11 for General members. The actual number of deaths were 2 and 11, respectively. Based on this experience, 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 (x).

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 1971 Group Annuity Mortality male table with a 4-year setback to reflect a sex independent mortality table.

The Safety members' unisex rates continue to be based on the 1971 Group Annuity Mortality male table without any setback.

TABLE 1

COUNTY OF FRESNO

EMPLOYEES' RETIREMENT ASSOCIATION

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	42	34	0	0	5	0	0	0	3
25-29	176	117	2	3	35	1	0	1	17
30-34	394	202	5	8	117	3	1	3	55
35-39	455	167	7	12	183	5	1	4	76
40-44	310	70	5	11	166	4	1	4	49
45-49	194	23	4	7	133	2	0	3	22
50-54	189	13	3	6	149	2	0	3	13
55-59	120	4	2	3	105	1	0	1	4
60-64	65	0	1	1	61	1	0	0	1
65 & Over	8	0	0	0	8	0	0	0	0
Total	1,953	630 (32.3%)	29 (1.5%)	51 (2.6%)	962 (49.3%)	19 (1.0%)	3 (.1%)	19 (1.0%)	240 (12.2%)

GENERAL FEMALE MEMBERS

20-24	146	134	1	0	7	0	0	0	4
25-29	555	454	3	3	61	1	0	1	32
30-34	565	384	5	6	120	1	0	1	48
35-39	552	292	6	9	187	2	0	2	54
40-44	360	130	5	8	179	1	0	1	36
45-49	246	54	3	6	163	1	0	1	18
50-54	231	29	3	5	182	1	0	1	10
55-59	187	11	2	3	165	1	0	0	5
60-64	124	2	1	1	119	0	0	0	1
65 & Over	15	0	0	0	15	0	0	0	0
Total	2,981	1,490 (50.0%)	29 (1.0%)	41 (1.4%)	1,198 (40.2%)	8 (.2%)	0 (0%)	7 (.2%)	208 (7.0%)

SAFETY MEMBERS

20-24	11	5	0	0	4	0	0	1	1
25-29	78	28	1	0	38	1	1	5	4
30-34	113	26	2	0	68	1	1	9	6
35-39	142	19	2	0	100	1	2	12	6
40-44	66	4	1	0	53	0	1	5	2
45-49	28	0	1	0	25	0	0	2	0
50-54	21	0	0	0	20	0	0	1	0
55 & Over	5	0	0	0	5	0	0	0	0
Total	464	82 (17.7%)	7 (1.5%)	0 (0%)	313 (67.5%)	3 (.6%)	5 (1.1%)	35 (7.5%)	19 (4.1%)

VALUATION RESULTS

SECTION III

EMPLOYEES' RETIREMENT ASSOCIATION
OF THE
COUNTY OF FRESNO

Analysis of Interest Rate and Salary
Scale Assumptions

Interest Rate Assumption

To assist in the selection of an appropriate interest assumption, we had available financial information showing the Retirement Fund's investment earnings.

The investment yields of the Fund over the past four years were as follows:

<u>Year Ended</u>	<u>Yield</u>
June 30, 1981	8.4%
June 30, 1982	9.8%
June 30, 1983	10.4%
June 30, 1984	10.2%

The 4-year average is approximately 9.7%. Based on this figure, the current investment policy, and including a certain amount of conservatism, $8\frac{1}{2}\%$ was chosen as the appropriate long term interest rate assumption.

Salary Scale Assumption

The same factor that has caused interest earnings to rise in the past (inflation) has also caused both the members' salaries and the Consumer Price Index to rise. In order to correlate the recommended long term investment return with the corresponding appropriate rate of inflation, we again have used the statistical procedures set forth in a published University of Chicago study. This study, Stocks, Bonds, Bills and Inflation: Simulations of the Future (1976-2000), by Roger E. Ibbotson and Rex A. Sinquefeld) analyzes the long term rates of investment return in relation to various levels of inflation, using results actually achieved during the period 1926-1974.

Based on the above study as it applies to your County, a long term salary inflation rate of 6% was chosen as one appropriate to use with the long term interest assumption of $8\frac{1}{2}\%$.

In addition to the inflation assumption, merit and longevity increases ranging from 5% to 1/2% per year (depending on the member's classification, age and service) are included in our salary projections. The effect of the merit and longevity increase is to add an increase of about 1% per year to the salary projections.

Multiple Studies

In connection with this survey, we have again performed more than one valuation of the System by varying the interest rates and the corresponding inflation components of the salary scales used. The purpose of this was to analyze the effect of these changes on the

County and member contribution rates.

To illustrate the effects of inflation on the costs of the System, the following studies were made:

- Study #1 - A valuation using 8% interest and 6-1/2% salary scale assumptions. Of the projected salary increase, 1% is for merit and longevity and 5-1/2% is for inflation. This set of economic assumptions is currently in effect.
- Study #2 - A valuation using 8-1/2% interest and 7% salary scale assumptions. Of the projected salary increase, 1% is for merit and longevity and 6% is for inflation.
- Study #3 - A valuation using 9% interest and 7-1/2% salary scale assumptions. Of the projected salary increase, 1% is for merit and longevity and 6-1/2% is for inflation.

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

COUNTY OF FRESNOContribution 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. The annual amounts are based on the June 30, 1984 payroll.

	Contribution Rates and Annual Amounts*			
	County		Employee	
	% of Payroll	Annual Amount	% of Payroll	Annual Amount
Current rates @ 8% interest and 6-1/2% salary scale	13.61%	\$15,753,000	5.86%	\$6,784,000
Recalculated rates @ 8% interest and 6-1/2% salary scale (Study #1)	14.16%	\$16,390,000	5.92%	\$6,854,000
Study #2 rates @ 8-1/2% interest and 7% salary scale	13.05%	\$15,111,000	5.62%	\$6,506,000
Study #3 rates @ 9% interest and 7-1/2% salary scale	12.21%	\$14,134,000	5.34%	\$6,182,000

*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 rates.

In comparing the current rates with those recalculated by this study, each based on the 8% assumption, we note about a 4% increase in the County rates and a 1% increase the member rates. These increases are due mainly to the 2% drop in the number of active members, the decrease in the withdrawal rates for Safety members, and the continuing trend towards earlier retirement for all groups.

A more detailed comparison of the basic and cost of living contribution rates calculated in Studies #1, #2 and #3, as well as previously developed rates, 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 supplemental past service liability is being amortized over 26 years from the valuation date.

Recommendations

We recommend that the Retirement Board adopt the Employee and County contribution rates resulting from Study #2. Study #2 assumes a long term interest rate of 8-1/2%, along with a 7% per year salary scale reflecting merit, longevity and long term inflation.

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 (iii)) the funding test (funding progress ratio). We look forward to meeting with the Board and discussing the various topics covered.

TABLE A

COUNTY OF FRESNOCOMPARISON OF EMPLOYEE CONTRIBUTION RATES*
(Using percentage of monthly salary in excess of \$350)Current Rates (Before Study)

8% interest and 6-1/2% salary scale assumptions							
General Members				Safety Members			
Entry Age	Basic	C.O.L.	Total	Entry Age	Basic	C.O.L.	Total
25	3.45%	2.46%	5.91%	21	4.06%	2.90%	6.96%
35	3.75	2.67	6.42	25	4.15	2.96	7.11
45	4.14	2.95	7.09	30	4.31	3.07	7.38

Rates Updated by 6/30/84 Study

Study #1 - 8% interest and 6-1/2% salary scale assumptions							
General Members				Safety Members			
Entry Age	Basic	C.O.L.	Total	Entry Age	Basic	C.O.L.	Total
25	3.45%	2.52%	5.97%	21	4.06%	2.96%	7.02%
35	3.75	2.74	6.49	25	4.15	3.03	7.18
45	4.14	3.02	7.16	30	4.31	3.14	7.45

Study #2 - 8-1/2% interest and 7% salary scale assumptions							
General Members				Safety Members			
Entry Age	Basic	C.O.L.	Total	Entry Age	Basic	C.O.L.	Total
25	3.32%	2.35%	5.67%	21	3.89%	2.75%	6.64%
35	3.61	2.55	6.16	25	3.98	2.81	6.79
45	3.98	2.81	6.79	30	4.13	2.92	7.05

Study #3 - 9% interest and 7-1/2% salary scale assumptions							
General Members				Safety Members			
Entry Age	Basic	C.O.L.	Total	Entry Age	Basic	C.O.L.	Total
25	3.20%	2.19%	5.39%	21	3.73%	2.56%	6.29%
35	3.48	2.38	5.86	25	3.82	2.62	6.44
45	3.83	2.62	6.45	30	3.96	2.71	6.67

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

COUNTY OF FRESNO

COMPARISON OF EMPLOYER CONTRIBUTION RATES

Current Rates (Before Study)8% interest and 6-1/2% salary scale assumptions

	General		Safety	
	<u>% of</u> <u>Payroll</u>	<u>Annual</u> <u>Amount*</u>	<u>% of</u> <u>Payroll</u>	<u>Annual</u> <u>Amount*</u>
Basic	9.75%	\$ 9,999,000	13.58%	\$1,794,000
COL	3.42	3,508,000	3.42	452,000
Total	13.17%	\$13,507,000	17.00%	\$2,246,000

Average Rate for the total group = 13.61%Rates Updated by 6/30/84 StudyStudy #1 -8% interest and 6-1/2% salary scale assumptions

	General		Safety	
	<u>% of</u> <u>Payroll</u>	<u>Annual</u> <u>Amount*</u>	<u>% of</u> <u>Payroll</u>	<u>Annual</u> <u>Amount*</u>
Basic	10.13%	\$10,389,000	13.88%	\$1,834,000
COL	3.60	3,692,000	3.60	475,000
Total	13.73%	\$14,081,000	17.48%	\$2,309,000

Average Rate for the total group = 14.16%Study #2 - 8-1/2% interest and 7% salary scale assumptions

	General		Safety	
	<u>% of</u> <u>Payroll</u>	<u>Annual</u> <u>Amount*</u>	<u>% of</u> <u>Payroll</u>	<u>Annual</u> <u>Amount*</u>
Basic	9.46%	\$ 9,702,000	13.60%	\$1,797,000
COL	3.12	3,200,000	3.12	412,000
Total	12.58%	\$12,902,000	16.72%	\$2,209,000

Average Rate for the total group = 13.05%Study #3 - 9% interest and 7-1/2% salary scale assumptions

	General		Safety	
	<u>% of</u> <u>Payroll</u>	<u>Annual</u> <u>Amount*</u>	<u>% of</u> <u>Payroll</u>	<u>Annual</u> <u>Amount*</u>
Basic	8.84%	\$ 9,066,000	13.39%	\$1,769,000
COL	2.85	2,923,000	2.85	376,000
Total	11.69%	\$11,989,000	16.24%	\$2,145,000

Average Rate for the total group = 12.21%

* Contributions are based on annual salaries on valuation date of \$102,559,000 for General and \$13,211,000 for Safety members.

COUNTY OF FRESNOFunding Progress of the SystemFunding Ratio - "Plan Termination" Assumption

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, in any soundly funded System the assets should be increasing 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.

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 the funding ratio based on the recommended 8-1/2% interest rate assumption.

		Previously Calculated	Recalculated	
		8% Interest	8% Interest	8½% Interest
(1)	Assets at Book Value	\$172,684,000	\$239,286,000*	\$239,286,000*
(2)	Present Value of Benefits	\$193,546,000	\$248,565,000	\$234,612,000
(3)	Funding Ratio (1) ÷ (2)	89%	96%	102%

*The Accounting Balance Sheet assets have been reduced by the amount in the Unamortized Yield Account (\$4,662,667) and the Miscellaneous Liabilities (\$1,615,415).

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, 1984. In calculating the funding progress of the System, we have used all of the assets, including all undistributed earnings.

At the time of the last study, the funding ratio was 89%, based on an interest rate of 8% per annum. The recalculated ratio based on an 8% interest rate assumption is 96%, which is significantly higher than the corresponding ratio at the time of the last study.

The funding ratio at the recommended 8-1/2% interest rate assumption of 102% as developed in this study is very high compared to the funding ratios of most public retirement plans. Furthermore, a funding ratio of 100% or more at a valuation date does not mean that future contributions are unnecessary. It does, however, mean that if the

System were to terminate as of that date, there would be enough money on hand to pay off all of the obligations occurred through that date.

FASB #35 - "Plan Continuation" Assumption

In addition to the Funding Progress Ratio, we have also developed a funding ratio based on the actuarial liabilities as defined by the Financial Accounting Standards Board Statement #35 (FASB 35). The FASB 35 liabilities assume an ongoing plan, i.e., they include future withdrawals and disability retirements, whereas the Funding Progress "Plan Termination" liabilities exclude these. All of the other assumptions used are the same under both ratios. It should be noted that Public Plans are now exempt from FASB 35 reporting requirements.

The FASB 35 liability and funding ratio as of June 30, 1984, based on the 8½% interest rate assumption, are as follows:

(1)	FASB 35 present value of benefits:	
	a. Retired members	\$129,918,000
	b. Vested active & inactive members	107,993,000
	c. Non-vested active members	3,145,000
	d. Total	<u>\$241,056,000</u>
(2)	Assets @ Book Value	\$239,286,000*
(3)	Funding ratio (2) ÷ (1)	99%

*The Accounting Balance Sheet assets have been reduced by the amount in the Unamortized Yield Account (\$4,662,667) and the Miscellaneous Liabilities (\$1,615,415).

The liability shown above is based on an interest assumption reflecting the cost value basis of the assets. For that reason, the comparison is made with assets at cost value rather than market value.

COUNTY OF FRESNOActuarial Balance Sheet

The purpose of an Actuarial Balance Sheet is to enable the 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 a 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, 1984, 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, 1984 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 benefits.
6. The present value of retirement allowances 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. The reserves held for future adverse experience, but sometimes used for other Retirement System purposes.

EMPLOYEES' RETIREMENT ASSOCIATION

OF THE COUNTY OF FRESNO

ACTUARIAL BALANCE SHEET*

As of June 30, 1984

<u>ASSETS</u>			
	<u>Basic</u>	<u>C.O.L.</u>	<u>Total</u>
1. Total assets now held @ Cost Value**	\$191,963,182	\$ 48,938,055	\$240,901,237
2. Present value of future contributions by members	39,171,337	22,641,033	61,812,370
3. Present value of future contributions by County	<u>158,094,457</u>	<u>65,569,064</u>	<u>223,663,521</u>
4. Total actuarial assets	\$389,228,976	\$137,148,152	\$526,377,128
<u>LIABILITIES</u>			
	<u>Basic</u>	<u>C.O.L.</u>	<u>Total</u>
5. Present value of retirement allowances payable to present retired members	\$ 85,714,262	\$ 44,204,196	\$129,918,458
6. Present value of retirement allowances to be granted:			
a) For service retirement	253,291,589	77,306,756	330,598,345
b) For disability retirement	14,536,045	5,128,714	19,664,759
7. Present value of death benefits to be granted:			
a) 6 months' salary death benefit and return of contributions	1,501,510	486,794	1,988,304
b) Death while eligible to retire	1,644,746	571,759	2,216,505
c) Duty death	978,290	391,395	1,369,685
8. Present value of members' contributions to be returned upon withdrawal before retirement	15,894,751	9,058,538	24,953,289
9. Contingency reserve**	14,052,368	0	14,052,368
10. Miscellaneous liabilities	<u>1,615,415</u>	<u>0</u>	<u>1,615,415</u>
11. Total actuarial liabilities	\$389,228,976	\$137,148,152	\$526,377,128

*Based on 8½% interest and 7% salary scale assumptions.

**Both the assets and the Contingency Reserve have been reduced by the amount in the Deferred Yield Account (\$4,662,667).

COUNTY OF FRESNO

SECTION III (v)

Special Study

Health Insurance Premiums Liability

We were requested to calculate the long-term liability to provide for the payment of health insurance premiums to both present and future retired members and their beneficiaries. Our calculations were based on a flat premium of \$20 per month per retiree and assume that Employer and active employees would share the costs equally.

The results of our study are as follows:

1. Lump Sum Liability for:

(a) Active Members	\$ 3,375,500
(b) Retired and Inactive Vested Members	<u>4,158,500</u>
(c) All Members	\$ 7,534,000
(a) + (b)	

2. Liability Expressed as a Level
Percentage of Payroll by Each, the Members and the County, for:

(a) Active Members	.11%
(b) Retired and Inactive Vested Members	<u>.10</u>
(c) All Members	.21%
(a) + (b)	

3. First Year Payment by Each, the Members and the County, for:

(a) Active Members	\$ 127,300
(b) Retired and Inactive Vested Members	<u>115,800</u>
(c) All Members	\$ 243,100
(a) + (b)	

The active member liability was assumed to be payable over their future working lifetimes. The liability for inactive vested and retired members was amortized over a 30 year period. All of the costs reflect the Study #2 actuarial assumptions.

We will be happy to discuss these results with the Retirement Board and other interested parties at your convenience.

APPENDIX

SECTION IV

COUNTY OF FRESNO

Major Provisions of the Pension Plan

Benefit Sections 31676.12 and 31664
of the 1937 County Act

Briefly summarized below are the major provisions of the County Employees Retirement Law of 1937, as amended through June 30, 1984, 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.

Return of Contributions

If a member should resign or die before becoming eligible for retirement, his contributions plus interest will be refunded.

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 final average salary.

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

Members with 5 years of service, regardless of age, are eligible for non-service connected disability. The benefit is 1.8% of final average salary for each year of service. If this benefit does not equal 1/3 of final average salary, the benefit is increased by the same percentage of final average salary for the years which would have been credited to age 62 (age 55 for Safety members), but the total benefit in this case can not be more than 1/3 of final average salary.

If the disability is service connected, the member may retire regardless of length of service, and the benefit is 50% of final average salary.

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 final average salary 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 1/3 of the percentage shown below times the first \$350 of monthly final average salary per year of service after January 1, 1956. Final average salary is based on the highest single year.

<u>Age</u>	<u>General</u>	<u>Safety</u>
50	1.34%	2.00%
55	1.77	2.62
60	2.34	2.62
65	2.62	-

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 final average salary for General members and at age 50 equal to 1/200 of final average 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 1/3. 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.

COUNTY OF FRESNOSummary of Assumptions and Funding MethodAssumptions

Valuation Interest Rate	8-1/2%
Post-Retirement Mortality	
(a) Service	
Males	1971 Group Annuity Mortality Table with no setback (Male)
Females	1971 Group Annuity Mortality Table with a 1 year setback (Female)
(b) Disability	1981 Disability Mortality Table
(c) For Employee Contribution Purposes	
General	1971 Group Annuity Mortality Table with a 4 year setback (Male)
Safety	1971 Group Annuity Mortality Table with no setback (Male)
Pre-Retirement Mortality	Based upon the Experience Analysis
Withdrawal Rates	Based upon the Experience Analysis
Disability Rates	Based upon the Experience Analysis
Service Retirement Rates	Based upon the Experience Analysis
Salary Scales	Total increases of 7% per year.
Assets	Valued at Book

Funding Method

The County's liability is currently being funded on the Entry Age Normal method with a Supplemental Present Value. The amortization period for the Supplemental Present Value is 26 years from the June 30, 1984 valuation date.

COUNTY OF FRESNO

SECTION IV(iii)

TOTAL ANNUAL SALARY AND MEMBERSHIP DISTRIBUTION
OF ACTIVE GENERAL MEMBERS
AS OF JULY 1, 1984

MALE

YEARS OF SERVICE

PRESENT AGE	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 & OVER	TOTAL
BELOW 20								
20 - 24	40 494,652	2 27,772						42 522,424
25 - 29	127 2,190,058	48 886,630	1 17,865					176 3,094,553
30 - 34	176 3,690,504	164 3,773,754	53 1,281,450	1 25,562				394 8,771,270
35 - 39	114 2,614,408	147 3,914,248	166 4,514,434	28 765,146				455 11,808,236
40 - 44	67 1,639,269	68 1,813,342	98 2,693,288	69 1,984,647	8 208,008			310 8,338,554
45 - 49	26 613,594	34 969,647	45 1,165,257	41 1,077,718	35 992,442	10 293,300	3 83,811	194 5,195,967
50 - 54	19 421,525	31 750,427	37 969,533	28 759,922	34 992,756	29 836,370	7 246,152	187 4,976,685
55 - 59	14 318,219	18 422,608	19 467,188	19 536,209	13 324,435	18 534,306	19 561,477	120 3,164,442
60 - 64	6 104,771	13 336,427	9 235,153	16 420,510	11 296,892	3 83,863	7 205,648	65 1,683,264
65 - 69	1 10,500	2 60,745	4 135,931				1 44,129	8 251,305
70 & OVER								
TOTAL	590 12,097,500	527 12,955,600	434 11,480,097	202 5,569,914	101 2,814,533	60 1,747,839	39 1,141,217	1,953 47,806,702

AVERAGE AGE 40.25
AVERAGE SERVICE 9.50
AVERAGE ENTRY AGE 30.75

COUNTY OF FRESNO

SECTION IV(iii)

TOTAL ANNUAL SALARY AND MEMBERSHIP DISTRIBUTION
OF ACTIVE GENERAL MEMBERS
AS OF JULY 1, 1984

FEMALE

YEARS OF SERVICE

PRESENT AGE	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 & OVER	TOTAL
BELOW 20	3 32,193							3 32,193
20 - 24	133 1,820,214	10 141,930						143 1,962,144
25 - 29	370 6,175,766	180 3,145,224	5 83,967					555 9,404,957
30 - 34	283 4,893,566	203 4,171,519	74 1,433,365	5 90,624				545 10,589,074
35 - 39	213 3,742,344	168 3,359,522	119 2,585,145	51 1,057,219	1 15,030			552 10,759,260
40 - 44	135 2,427,590	100 1,993,124	54 1,104,626	49 1,112,947	20 420,848	2 37,887		360 7,097,022
45 - 49	68 1,122,546	72 1,391,635	44 811,479	32 651,532	18 422,775	11 237,573	1 15,030	246 4,652,570
50 - 54	52 896,467	61 1,112,297	53 1,003,222	39 801,678	8 162,212	6 129,725	12 229,225	231 4,334,826
55 - 59	36 557,529	44 756,116	43 826,979	39 736,902	15 321,878	5 76,998	5 115,041	187 3,391,443
60 - 64	13 193,991	29 488,750	26 433,406	23 417,756	17 372,352	5 133,348	11 194,382	124 2,233,985
65 - 69	1 26,576	2 28,916	2 27,850	3 55,336	4 87,790	1 15,134	1 26,576	14 268,178
70 & OVER	1 26,576							1 26,576
TOTAL	1,308 21,915,358	869 16,589,033	420 8,310,039	241 4,923,994	83 1,802,885	30 630,665	30 580,254	2,981 54,752,228

AVERAGE AGE 38.50
AVERAGE SERVICE 7.00
AVERAGE ENTRY AGE 31.50

COUNTY OF FRESNO

SECTION IV(iii)

TOTAL ANNUAL SALARY AND MEMBERSHIP DISTRIBUTION
OF ACTIVE SAFETY MEMBERS
AS OF JULY 1, 1984

PRESENT AGE	TOTAL YEARS OF SERVICE							TOTAL
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 & OVER	
BELOW 20								
20 - 24	11 240,413							11 240,413
25 - 29	48 1,037,236	30 771,696						78 1,808,932
30 - 34	30 691,765	63 1,783,476	20 615,124					113 3,090,365
35 - 39	14 324,971	48 1,346,985	67 2,026,489	13 443,324				142 4,141,769
40 - 44	1 33,935	11 311,449	24 731,693	28 943,253	2 86,672			66 2,107,002
45 - 49	1 20,933		3 94,264	12 368,416	11 374,147	1 43,115		28 900,875
50 - 54				6 184,295	13 438,225	2 67,116		21 689,636
55 & OVER					3 138,176	1 37,108	1 57,079	5 232,363
TOTAL	105 2,349,253	152 4,213,606	114 3,467,570	59 1,939,288	29 1,037,220	4 147,339	1 57,079	464 13,211,355

AVERAGE AGE 36.00
AVERAGE SERVICE 9.50
AVERAGE ENTRY AGE 26.50

COUNTY OF FRESNOSummary of Monthly Allowances Being Paid General Members

<u>Service Retirements</u>	<u>Number</u>	<u>Monthly Allowance</u>		
		<u>Basic</u>	<u>Cost-of-Living</u>	<u>Total</u>
Unmodified	1,043	\$536,494	\$ 88,385	\$624,879
Option 1	235	54,795	15,887	70,682
Options 2 & 3	53	15,839	2,705	18,544
Total	<u>1,331</u>	<u>\$607,128</u>	<u>\$106,977</u>	<u>\$714,105</u>
<u>Disability Retirements</u>				
Unmodified	122	\$ 40,955	\$ 10,739	\$ 51,694
Option 1	19	3,857	1,106	4,963
Options 2 & 3	2	140	53	193
Total	<u>143</u>	<u>\$ 44,952</u>	<u>\$ 11,898</u>	<u>\$ 56,850</u>
<u>Beneficiaries</u>				
Total	<u>155</u>	<u>\$ 38,666</u>	<u>\$ 11,086</u>	<u>\$ 49,752</u>
Grand Total	<u>1,629</u>	<u>\$690,746</u>	<u>\$129,961</u>	<u>\$820,707</u>

COUNTY OF FRESNOSummary of Monthly Allowances Being Paid Safety Members

<u>Service Retirements</u>	<u>Number</u>	<u>Monthly Allowance</u>		
		<u>Basic</u>	<u>Cost-of-Living</u>	<u>Total</u>
Unmodified	104	\$ 97,030	\$18,524	\$115,554
Option 1	2	2,299	368	2,667
Options 2 & 3	1	309	141	450
Total	<u>107</u>	<u>\$ 99,638</u>	<u>\$19,033</u>	<u>\$118,671</u>
<u>Disability Retirements</u>				
Unmodified	24	\$ 18,115	\$ 3,591	\$ 21,706
Options 1	1	224	94	318
Options 2 & 3	0	0	0	0
Total	<u>25</u>	<u>\$ 18,339</u>	<u>\$ 3,685</u>	<u>\$ 22,024</u>
<u>Beneficiaries</u>				
Total	<u>19</u>	<u>\$ 9,458</u>	<u>\$ 2,289</u>	<u>\$ 11,747</u>
Grand Total	<u>151</u>	<u>\$127,435</u>	<u>\$25,007</u>	<u>\$152,442</u>

COUNTY OF FRESNO

General Male Members

Probabilities of Separation Prior to Retirement

<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>Vested Termination</u>
20	.1545	.0002	.0000	.0000	.0000	.0001	.0001	.0005
21	.1455	.0002	.0000	.0000	.0000	.0001	.0001	.0005
22	.1370	.0002	.0000	.0000	.0000	.0001	.0001	.0005
23	.1280	.0002	.0000	.0000	.0000	.0001	.0001	.0005
24	.1190	.0002	.0000	.0000	.0000	.0001	.0001	.0005
25	.1110	.0003	.0001	.0000	.0001	.0001	.0001	.0010
26	.1050	.0003	.0001	.0000	.0001	.0001	.0001	.0010
27	.0990	.0003	.0001	.0000	.0001	.0001	.0001	.0010
28	.0910	.0003	.0001	.0000	.0001	.0001	.0001	.0015
29	.0830	.0003	.0001	.0000	.0001	.0001	.0001	.0015
30	.0760	.0004	.0001	.0000	.0001	.0001	.0001	.0015
31	.0690	.0004	.0001	.0000	.0001	.0001	.0001	.0015
32	.0620	.0004	.0001	.0000	.0001	.0001	.0001	.0020
33	.0575	.0004	.0002	.0000	.0002	.0001	.0001	.0025
34	.0555	.0004	.0002	.0000	.0002	.0001	.0001	.0030
35	.0535	.0005	.0003	.0000	.0002	.0001	.0002	.0040
36	.0520	.0005	.0003	.0000	.0002	.0001	.0002	.0050
37	.0510	.0005	.0003	.0000	.0002	.0001	.0002	.0075
38	.0495	.0005	.0004	.0000	.0002	.0001	.0002	.0100
39	.0475	.0006	.0004	.0000	.0002	.0001	.0002	.0125
40	.0450	.0006	.0005	.0000	.0003	.0001	.0003	.0145
41	.0405	.0006	.0006	.0000	.0003	.0001	.0003	.0155
42	.0355	.0007	.0008	.0000	.0003	.0001	.0003	.0160
43	.0305	.0007	.0010	.0000	.0004	.0001	.0003	.0160
44	.0265	.0008	.0012	.0000	.0004	.0001	.0003	.0155
45	.0215	.0008	.0014	.0000	.0005	.0001	.0004	.0150
46	.0185	.0009	.0016	.0000	.0005	.0001	.0005	.0145
47	.0165	.0010	.0018	.0000	.0006	.0001	.0006	.0140
48	.0155	.0011	.0020	.0000	.0006	.0001	.0007	.0135
49	.0145	.0012	.0022	.0000	.0007	.0001	.0008	.0130
50	.0135	.0013	.0025	.0500	.0008	.0001	.0009	.0125
51	.0130	.0014	.0028	.0350	.0009	.0001	.0010	.0120
52	.0125	.0015	.0031	.0350	.0010	.0002	.0011	.0110
53	.0120	.0016	.0035	.0350	.0011	.0002	.0012	.0105
54	.0110	.0017	.0039	.0450	.0012	.0002	.0013	.0095
55	.0100	.0018	.0043	.0500	.0013	.0002	.0014	.0090
56	.0090	.0019	.0045	.0600	.0014	.0002	.0016	.0085
57	.0080	.0020	.0047	.0700	.0015	.0002	.0017	.0080
58	.0070	.0021	.0049	.0800	.0016	.0002	.0017	.0075
59	.0060	.0022	.0051	.0900	.0017	.0003	.0020	.0070
60	.0045	.0024	.0053	.1800	.0018	.0003	.0021	.0070
61	.0035	.0026	.0054	.1800	.0019	.0003	.0021	.0065
62	.0025	.0028	.0055	.4000	.0020	.0003	.0022	.0065
63	.0015	.0030	.0056	.2400	.0022	.0003	.0023	.0060
64	.0005	.0032	.0057	.2500	.0024	.0004	.0024	.0055
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	.5000	.0039	.0004	.0000	.0000
69	.0000	.0042	.0000	.7500	.0045	.0004	.0000	.0000
70	.0000	.0000	.0000	1.0000	.0000	.0000	.0000	.0000

COUNTY OF FRESNO

General Female Members

Probabilities of Separation Prior to Retirement

<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>Vested Termination</u>
20	.2230	.0001	.0000	.0000	.0000	.0000	.0001	.0005
21	.2140	.0001	.0000	.0000	.0000	.0000	.0001	.0005
22	.2050	.0001	.0000	.0000	.0000	.0000	.0001	.0005
23	.1960	.0001	.0000	.0000	.0000	.0000	.0001	.0010
24	.1860	.0001	.0000	.0000	.0000	.0000	.0001	.0010
25	.1750	.0002	.0001	.0000	.0001	.0000	.0001	.0015
26	.1630	.0002	.0001	.0000	.0001	.0000	.0001	.0025
27	.1510	.0002	.0001	.0000	.0001	.0000	.0001	.0030
28	.1400	.0002	.0001	.0000	.0001	.0000	.0001	.0035
29	.1290	.0003	.0001	.0000	.0001	.0000	.0001	.0040
30	.1180	.0003	.0001	.0000	.0001	.0000	.0001	.0045
31	.1070	.0003	.0001	.0000	.0001	.0000	.0001	.0050
32	.0970	.0003	.0002	.0000	.0001	.0000	.0001	.0055
33	.0880	.0004	.0002	.0000	.0001	.0000	.0001	.0055
34	.0830	.0004	.0002	.0000	.0001	.0000	.0001	.0055
35	.0790	.0004	.0003	.0000	.0001	.0000	.0001	.0060
36	.0751	.0005	.0003	.0000	.0001	.0000	.0001	.0060
37	.0710	.0005	.0004	.0000	.0001	.0000	.0001	.0065
38	.0670	.0005	.0004	.0000	.0001	.0000	.0001	.0065
39	.0630	.0005	.0005	.0000	.0001	.0000	.0001	.0065
40	.0590	.0006	.0005	.0000	.0001	.0000	.0001	.0070
41	.0550	.0006	.0006	.0000	.0001	.0000	.0001	.0080
42	.0510	.0006	.0007	.0000	.0001	.0000	.0001	.0090
43	.0470	.0007	.0008	.0000	.0001	.0000	.0001	.0100
44	.0425	.0007	.0009	.0000	.0001	.0000	.0001	.0110
45	.0380	.0007	.0010	.0000	.0002	.0000	.0001	.0120
46	.0345	.0008	.0011	.0000	.0002	.0000	.0002	.0110
47	.0315	.0008	.0012	.0000	.0002	.0000	.0002	.0100
48	.0290	.0009	.0013	.0000	.0002	.0000	.0002	.0090
49	.0265	.0009	.0014	.0000	.0003	.0000	.0002	.0080
50	.0245	.0010	.0015	.0300	.0003	.0000	.0003	.0075
51	.0230	.0010	.0016	.0250	.0003	.0000	.0003	.0070
52	.0215	.0011	.0017	.0250	.0004	.0000	.0003	.0065
53	.0205	.0011	.0018	.0250	.0004	.0000	.0003	.0060
54	.0195	.0012	.0020	.0250	.0004	.0000	.0003	.0055
55	.0180	.0012	.0022	.0350	.0004	.0000	.0004	.0055
56	.0175	.0013	.0024	.0500	.0005	.0000	.0004	.0055
57	.0160	.0014	.0026	.0650	.0005	.0000	.0004	.0055
58	.0140	.0015	.0028	.0825	.0005	.0000	.0004	.0055
59	.0120	.0016	.0030	.1050	.0006	.0000	.0005	.0055
60	.0100	.0018	.0032	.1100	.0006	.0000	.0005	.0055
61	.0080	.0019	.0034	.1600	.0006	.0000	.0005	.0045
62	.0060	.0020	.0036	.3000	.0007	.0000	.0005	.0035
63	.0040	.0021	.0038	.1250	.0007	.0000	.0005	.0025
64	.0010	.0022	.0040	.2500	.0007	.0000	.0005	.0015
65	.0000	.0024	.0000	.5000	.0008	.0000	.0000	.0000
66	.0000	.0025	.0000	.2500	.0008	.0000	.0000	.0000
67	.0000	.0026	.0000	.3500	.0008	.0000	.0000	.0000
68	.0000	.0027	.0000	.6000	.0009	.0000	.0000	.0000
69	.0000	.0028	.0000	.8000	.0009	.0000	.0000	.0000
70	.0000	.0000	.0000	1.0000	.0000	.0000	.0000	.0000

COUNTY OF FRESNO

Safety Members

Probabilities of Separation Prior to Retirement

<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>Vested Termination</u>
20	.0810	.0003	.0000	.0000	.0000	.0002	.0005	.0010
21	.0780	.0003	.0000	.0000	.0000	.0002	.0005	.0011
22	.0750	.0003	.0000	.0000	.0000	.0002	.0005	.0012
23	.0720	.0003	.0000	.0000	.0000	.0002	.0006	.0013
24	.0680	.0003	.0000	.0000	.0000	.0002	.0007	.0014
25	.0630	.0004	.0000	.0000	.0001	.0003	.0007	.0015
26	.0580	.0004	.0000	.0000	.0001	.0003	.0008	.0017
27	.0530	.0004	.0000	.0000	.0002	.0003	.0008	.0019
28	.0480	.0004	.0000	.0000	.0002	.0003	.0009	.0021
29	.0420	.0004	.0000	.0000	.0002	.0003	.0010	.0023
30	.0370	.0005	.0000	.0000	.0002	.0004	.0010	.0025
31	.0320	.0005	.0000	.0000	.0002	.0004	.0011	.0027
32	.0280	.0005	.0000	.0000	.0002	.0004	.0013	.0030
33	.0250	.0005	.0000	.0000	.0002	.0004	.0015	.0033
34	.0230	.0005	.0000	.0000	.0002	.0004	.0017	.0036
35	.0220	.0006	.0000	.0000	.0002	.0005	.0019	.0039
36	.0210	.0006	.0000	.0000	.0002	.0005	.0021	.0042
37	.0200	.0006	.0000	.0000	.0002	.0005	.0023	.0045
38	.0190	.0007	.0000	.0000	.0002	.0005	.0025	.0048
39	.0180	.0007	.0000	.0000	.0002	.0005	.0029	.0051
40	.0170	.0008	.0000	.0000	.0003	.0006	.0032	.0048
41	.0150	.0008	.0000	.0000	.0003	.0006	.0036	.0045
42	.0130	.0009	.0000	.0000	.0003	.0006	.0039	.0042
43	.0110	.0009	.0000	.0000	.0003	.0007	.0043	.0039
44	.0090	.0010	.0000	.0000	.0003	.0007	.0047	.0036
45	.0070	.0010	.0000	.0500	.0004	.0008	.0053	.0033
46	.0060	.0011	.0000	.0400	.0004	.0008	.0058	.0030
47	.0050	.0012	.0000	.0450	.0005	.0009	.0065	.0027
48	.0040	.0013	.0000	.0500	.0006	.0009	.0072	.0024
49	.0030	.0014	.0000	.0550	.0007	.0010	.0080	.0023
50	.0000	.0015	.0000	.1200	.0008	.0010	.0088	.0020
51	.0000	.0016	.0000	.1100	.0009	.0011	.0096	.0000
52	.0000	.0017	.0000	.1200	.0010	.0012	.0104	.0000
53	.0000	.0018	.0000	.1300	.0011	.0013	.0112	.0000
54	.0000	.0019	.0000	.1400	.0012	.0013	.0120	.0000
55	.0000	.0020	.0000	.1650	.0013	.0014	.0127	.0000
56	.0000	.0021	.0000	.2000	.0014	.0015	.0135	.0000
57	.0000	.0022	.0000	.2500	.0015	.0016	.0143	.0000
58	.0000	.0023	.0000	.3000	.0016	.0017	.0151	.0000
59	.0000	.0024	.0000	.5000	.0017	.0018	.0159	.0000
60	.0000	.0000	.0000	1.0000	.0000	.0000	.0000	.0000

COUNTY OF FRESNO

Member Contribution Rates*

General - Section 31676.12

Entry Age	Basic		C.O.L.**		Basic and C.O.L.	
	First \$350 of Monthly Compen- sation	Excess of Monthly Compen- sation over \$350	First \$350 of Monthly Compen- sation	Excess of Monthly Compen- sation over \$350	First \$350 of Monthly Compen- sation	Excess of Monthly Compen- sation over \$350
16	2.17%	3.26%	1.53%	2.31%	3.70%	5.57%
17	2.17	3.26	1.53	2.31	3.70	5.57
18	2.17	3.26	1.53	2.31	3.70	5.57
19	2.17	3.26	1.53	2.31	3.70	5.57
20	2.17	3.26	1.53	2.31	3.70	5.57
21	2.18	3.27	1.54	2.31	3.72	5.58
22	2.19	3.28	1.55	2.32	3.74	5.60
23	2.19	3.29	1.55	2.33	3.74	5.62
24	2.20	3.30	1.56	2.33	3.76	5.63
25	2.21	3.32	1.56	2.35	3.77	5.67
26	2.23	3.34	1.58	2.36	3.81	5.70
27	2.24	3.36	1.58	2.38	3.82	5.74
28	2.26	3.39	1.60	2.40	3.86	5.79
29	2.27	3.41	1.61	2.41	3.88	5.82
30	2.29	3.44	1.62	2.43	3.91	5.87
31	2.31	3.47	1.63	2.45	3.94	5.92
32	2.34	3.51	1.65	2.48	3.99	5.99
33	2.36	3.54	1.67	2.50	4.03	6.04
34	2.39	3.58	1.69	2.53	4.08	6.11
35	2.41	3.61	1.70	2.55	4.11	6.16
36	2.43	3.65	1.72	2.58	4.15	6.23
37	2.45	3.68	1.73	2.60	4.18	6.28
38	2.48	3.72	1.75	2.63	4.23	6.35
39	2.51	3.76	1.77	2.66	4.28	6.42
40	2.53	3.79	1.79	2.68	4.32	6.47
41	2.55	3.83	1.80	2.71	4.35	6.54
42	2.58	3.87	1.82	2.74	4.40	6.61
43	2.60	3.90	1.84	2.76	4.44	6.66
44	2.63	3.94	1.86	2.79	4.49	6.73
45	2.65	3.98	1.87	2.81	4.52	6.79
46	2.68	4.02	1.90	2.84	4.58	6.86
47	2.71	4.06	1.92	2.87	4.63	6.93
48	2.73	4.09	1.93	2.89	4.66	6.98
49	2.75	4.13	1.94	2.92	4.69	7.05
50	2.78	4.17	1.97	2.95	4.75	7.12
51	2.81	4.21	1.99	2.98	4.80	7.19
52	2.83	4.25	2.00	3.01	4.83	7.26
53	2.86	4.29	2.02	3.03	4.88	7.32
54	2.89	4.33	2.04	3.06	4.93	7.39
55	2.91	4.37	2.06	3.09	4.97	7.46
56	2.94	4.41	2.08	3.12	5.02	7.53
57	2.97	4.45	2.10	3.15	5.07	7.60
58	2.99	4.49	2.11	3.17	5.10	7.66
59 & Over	3.02	4.53	2.14	3.20	5.16	7.73

*As a percentage of salary (half contribution rates); based upon 8-1/2% interest and 7% salary scale assumptions.

**70.71% of basic half contribution rates.

COUNTY OF FRESNO
Member Contribution Rates*

Entry Age	Safety - Section 31664					
	Basic		C.O.L. **		Basic and C.O.L.	
	First \$350 of Monthly Compen- sation	Excess of Monthly Compen- sation over \$350	First \$350 of Monthly Compen- sation	Excess of Monthly Compen- sation over \$350	First \$350 of Monthly Compen- sation	Excess of Monthly Compen- sation over \$350
21	2.59%	3.89%	1.83%	2.75%	4.42%	6.64%
22	2.61	3.91	1.85	2.76	4.46	6.67
23	2.62	3.93	1.85	2.78	4.47	6.71
24	2.64	3.96	1.87	2.80	4.51	6.76
25	2.65	3.98	1.87	2.81	4.52	6.79
26	2.67	4.01	1.89	2.84	4.56	6.85
27	2.69	4.04	1.90	2.86	4.59	6.90
28	2.71	4.07	1.92	2.88	4.63	6.95
29	2.73	4.10	1.93	2.90	4.66	7.00
30	2.75	4.13	1.94	2.92	4.69	7.05
31	2.77	4.16	1.96	2.94	4.73	7.10
32	2.80	4.20	1.98	2.97	4.78	7.17
33	2.82	4.23	1.99	2.99	4.81	7.22
34	2.85	4.27	2.02	3.02	4.87	7.29
35	2.87	4.31	2.03	3.05	4.90	7.36

* As a percentage of salary (half contribution rates); based upon 8-1/2% interest and 6-1/2% salary scale assumptions.

** 70.71 % of basic half contribution rates.

COUNTY OF FRESNOAccounting Balance Sheet
As of June 30, 1984ASSETS

1.	Cash		\$ 1,744,955
2.	Contributions receivable		779,310
3.	Securities owned (cost basis)		233,624,427
4.	Unamortized deferred yield		4,662,667
5.	Accrued interest		4,270,137
6.	Other receivables		<u>482,408</u>
7.	Total Assets		<u>\$245,563,904</u>

LIABILITIES AND FUND BALANCE

8.	Members' deposit reserve		
	a. Normal contributions	\$38,107,801	
	b. Cost of living contributions	<u>15,249,015</u>	\$ 53,356,816
9.	Current service advance reserve		34,041,916
10.	Current service pension reserve		85,888,928
11.	Annuity reserve		16,384,797
12.	Survivors' death benefit reserve		1,871,957
13.	Cost of living reserve		33,689,040
14.	Investment contingency reserve		18,715,035
15.	Miscellaneous liabilities		
	a. Valley Medical Center		
	Prepaid Contributions		482,143
	b. Other		<u>1,133,272</u>
16.	Total Liabilities		<u>\$245,563,904</u>

COUNTY OF FRESNO

SECTION IV (viii)

Ratio of Current Compensation to Compensation
Anticipated at Age 70 for General Members and
Age 60 For Safety Members

<u>Age</u>	<u>GENERAL MEMBERS</u>			<u>SAFETY MEMBERS</u>		
	<u>Study #1</u>	<u>Study #2</u>	<u>Study #3</u>	<u>Study #1</u>	<u>Study #2</u>	<u>Study #3</u>
20	.039	.031	.024	.081	.067	.055
21	.043	.034	.027	.088	.073	.061
22	.048	.038	.030	.095	.080	.067
23	.053	.042	.034	.103	.086	.073
24	.058	.047	.038	.111	.093	.079
25	.063	.051	.041	.119	.101	.086
26	.069	.056	.045	.127	.109	.092
27	.075	.061	.050	.136	.117	.100
28	.081	.066	.054	.146	.125	.108
29	.087	.072	.059	.156	.135	.116
30	.093	.077	.064	.167	.145	.126
31	.100	.083	.069	.178	.155	.135
32	.108	.090	.075	.190	.166	.146
33	.114	.096	.081	.203	.178	.157
34	.121	.102	.086	.216	.191	.169
35	.128	.109	.092	.230	.204	.182
36	.136	.116	.099	.245	.218	.195
37	.145	.124	.106	.260	.233	.209
38	.153	.132	.113	.276	.248	.224
39	.162	.140	.121	.292	.264	.240
40	.172	.149	.130	.309	.282	.256
41	.183	.159	.139	.328	.300	.274
42	.194	.170	.149	.348	.320	.294
43	.205	.181	.159	.369	.341	.314
44	.218	.193	.171	.392	.363	.337
45	.231	.205	.182	.414	.386	.360
46	.245	.219	.195	.440	.412	.386
47	.260	.233	.209	.467	.439	.413
48	.275	.248	.224	.495	.468	.442
49	.291	.264	.239	.525	.498	.473
50	.309	.282	.256	.556	.530	.506
51	.329	.300	.275	.590	.565	.542
52	.348	.319	.293	.626	.602	.580
53	.369	.340	.314	.663	.642	.621
54	.391	.363	.336	.703	.684	.665
55	.415	.387	.360	.746	.729	.712
56	.440	.412	.386	.791	.776	.762
57	.467	.439	.413	.840	.828	.816
58	.494	.467	.442	.889	.881	.873
59	.525	.498	.473	.943	.939	.934
60	.556	.530	.506			
61	.589	.565	.541	1.000	1.000	1.000
62	.626	.602	.580			
63	.663	.642	.621			
64	.703	.684	.665			
65	.746	.729	.712			
66	.791	.776	.762			
67	.839	.827	.815			
68	.889	.881	.873			
69	.943	.939	.934			
70	1.000	1.000	1.000			

Study #1 = Merit and longevity + 5.50% inflation
Study #2 = Merit and longevity + 6.00% inflation
Study #3 = Merit and longevity + 6.50% inflation

COUNTY OF FRESNOYears of Life Expectancy after Service Retirement

<u>Age</u>	<u>Male</u>	<u>Female</u>	<u>Age</u>	<u>Male</u>	<u>Female</u>
50	26.91	33.54	80	7.00	9.40
51	26.05	32.61	81	6.63	8.88
52	25.20	31.67	82	6.27	8.37
53	24.36	30.75	83	5.94	7.89
54	23.53	29.82	84	5.63	7.43
55	22.71	28.90	85	5.34	6.99
56	21.90	27.99	86	5.06	6.57
57	21.10	27.08	87	4.80	6.16
58	20.31	26.17	88	4.55	5.77
59	19.53	25.28	89	4.31	5.40
60	18.76	24.39	90	4.08	5.04
61	18.00	23.50	91	3.87	4.70
62	17.26	22.63	92	3.66	4.38
63	16.53	21.77	93	3.46	4.07
64	15.81	20.91	94	3.26	3.77
65	15.11	20.07	95	3.07	3.50
66	14.43	19.24	96	2.89	3.23
67	13.77	18.42	97	2.71	2.98
68	13.13	17.62	98	2.54	2.76
69	12.50	16.82	99	2.37	2.54
70	11.91	16.03	100	2.20	2.34
71	11.33	15.26	101	2.04	2.14
72	10.79	14.50	102	1.88	1.95
73	10.26	13.78	103	1.72	1.78
74	9.74	13.07	104	1.55	1.61
75	9.24	12.40	105	1.38	1.44
76	8.76	11.75	106	1.21	1.28
77	8.28	11.12	107	1.04	1.13
78	7.83	10.53	108	.88	.98
79	7.41	9.95	109	.71	.84
			110	.50	.69
			111	--	.50

1971 GA (x) (y - 1)

COUNTY OF FRESNOYears of Life Expectancy after Disability RetirementGeneral Members

<u>Age</u>	<u>Male & Female</u>	<u>Age</u>	<u>Male & Female</u>	<u>Age</u>	<u>Male & Female</u>
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	6.27
23	36.56	53	19.63	83	5.94
24	35.87	54	19.16	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	.88
49	21.57	79	7.41	109	.71
				110	.50

1981 Disability Table

COUNTY OF FRESNOYears of Life Expectancy after Disability RetirementSafety Members

<u>Age</u>	<u>Male & Female</u>	<u>Age</u>	<u>Male & Female</u>	<u>Age</u>	<u>Male & Female</u>
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	6.27
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	14.09	95	3.07
36	35.16	66	13.61	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	.88
49	24.38	79	7.41	109	.71
				110	.50

1981 Disability Table