



# C & B CONSULTING GROUP

COATES, HERFURTH & ENGLAND DIVISION

April 17, 1989

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, 1988. We are pleased to hand you herewith our report on the results of the survey.


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.

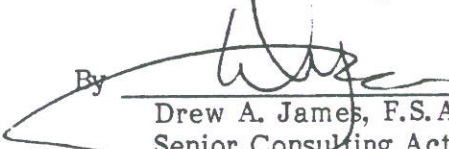
Respectfully submitted,

C&B CONSULTING GROUP  
Coates, Herfurth & England, Division

By

  
\_\_\_\_\_  
Krystyna H. Upstill, E.A., M.A.A.A.  
Senior Consulting Actuary

By

  
\_\_\_\_\_  
Drew A. James, F.S.A., M.A.A.A.  
Senior Consulting Actuary

KHU:DAJ:pdk

Enclosure

EMPLOYEES' RETIREMENT ASSOCIATION  
OF THE  
COUNTY OF FRESNO

Actuarial Report  
Prepared for the Board of Retirement  
as of June 30, 1988



EMPLOYEES' RETIREMENT ASSOCIATION  
OF THE  
COUNTY OF FRESNO

June 30, 1988

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REPORT PREFACE

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, 1988, using the latest statistical information available as to the active, inactive and retired membership.

The results presented herein are based upon the unaudited data as supplied to C&B Consulting Group, Coates, Herfurth & England Division, 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 and on the Governmental Accounting Standards Board (GASB) Statement #5 basis. GASB #5 is a new ratio which includes a projection of future salary increases. We believe that the use of 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.

EMPLOYEES' RETIREMENT ASSOCIATION  
OF THE  
COUNTY OF FRESNO

SECTION (ii)

Highlights of Actuarial Data

Our July 1, 1986 and July 1, 1988 actuarial valuations of your System were based on the following data:

	<u>July 1, 1986</u>	<u>July 1, 1988</u>	<u>Percentage Increase (Decrease) During the Two Year Period</u>
<u>Active Members</u>			
<u>General</u>			
Number	5,300	5,007	(6%)
Total annual payroll	\$122,183,000	\$117,304,000	(4%)
Average monthly salary	\$ 1,921	\$ 1,952	2%
<u>Safety</u>			
Number	462	479	4%
Total annual payroll	\$ 14,639,000	\$ 14,726,000	1%
Average monthly salary	\$ 2,641	\$ 2,562	(3%)
<u>General and Safety</u>			
Number	5,762	5,486	(5%)
Total annual payroll	\$136,822,000	\$132,030,000	(4%)
Average monthly salary	\$ 1,979	\$ 2,006	1%
<u>Retired Members</u>			
Number	1,918	2,154	12%
Total annual pension roll (basic)	\$ 11,557,000	\$ 14,524,000	26%
Average monthly allowance (basic)	\$ 502	\$ 562	12%
Total annual pension roll (basic and C.O.L.)	\$ 14,264,000	\$ 17,960,000	26%
Average monthly allowance (basic and C.O.L.)	\$ 620	\$ 695	12%
<u>Inactive Vested Members</u>			
Number	351	492	40%
<u>Assets</u>			
Total assets at Book Value	\$320,606,000	\$424,272,000	32%



EXPERIENCE ANALYSIS

SECTION II

EMPLOYEES' RETIREMENT ASSOCIATION  
OF THE  
COUNTY OF FRESNO

Non-Economic 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, 1986 through June 30, 1988. 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 was higher than expected for General male and female members. The rates of non-vested withdrawal for General members were changed to reflect this experience. For Safety members, no adjustments were required in the rates of withdrawal at this time.

The net effect of these changes is to cause a decrease in the cost to the System.

Service Retirement

The investigation of the System's actual experience indicated that the number of actual service retirements was higher than expected for General male members. The rates of service retirement for General males were adjusted to reflect this experience. The net effect of this change is to cause some increase in the cost to the System.

All other rates of service retirement remain unchanged, since the number of service retirements was close to that expected by the investigation.

Disability Retirement

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



### Death Before Retirement

The incidence of ordinary death for Safety members was lower than expected. As a result, the rates of ordinary death were decreased for Safety members while all other rates of death remain unchanged.

### Vested Withdrawal

The rates of vested withdrawal remained unchanged at this time because the actual experience closely reflected the levels expected for both General and Safety members.

### 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 table 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 (vi) of this report.

### 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 109 General and 6 Safety deaths. The actual number of deaths were 99 and 5, respectively.

Based on this experience and on that of the other Counties we serve, we recommend that the 1983 Group Annuity Mortality Table set forward one year be used to reflect the longer life expectancies being experienced by your groups. Based on the new tables, we would expect 100 General and 5 Safety members and beneficiaries to die, which compares favorably to the actual deaths. 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.

The expected number of deaths of retired disabled members for the two years under investigation was 13. The actual number of deaths was 9. These number were 12 and 12, respectively for the prior investigation. 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 2-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 forward one year.

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	24	22	0	0	1	0	0	0	1
25-29	122	98	1	1	14	1	0	0	7
30-34	268	174	3	4	59	2	0	2	24
35-39	370	177	5	9	131	3	1	3	41
40-44	430	144	7	13	213	4	1	5	43
45-49	266	56	5	9	172	3	1	3	17
50-54	190	22	3	6	149	2	0	2	6
55-59	131	8	2	3	114	1	0	1	2
60-64	46	1	1	1	43	0	0	0	0
65 & OVER	6	0	0	0	6	0	0	0	0
TOTAL	1,853	702 (37.9%)	27 ( 1.4%)	46 ( 2.5%)	902 (48.7%)	16 ( .9%)	3 ( .1%)	16 ( .9%)	141 ( 7.6%)

GENERAL FEMALE MEMBERS

20-24	89	82	0	0	4	0	0	0	3
25-29	353	299	2	2	32	1	0	0	17
30-34	570	415	5	6	102	1	0	1	40
35-39	652	383	7	10	195	2	0	2	53
40-44	550	241	7	11	239	2	0	2	48
45-49	349	99	5	8	210	1	0	1	25
50-54	257	42	3	6	193	1	0	1	11
55-59	196	17	2	3	168	1	0	0	5
60-64	107	4	1	1	100	0	0	0	1
65 & OVER	31	0	0	0	31	0	0	0	0
TOTAL	3,154	1,582 (50.2%)	32 ( 1.0%)	47 ( 1.5%)	1,274 (40.4%)	9 ( .3%)	0 ( .0%)	7 ( .2%)	203 ( 6.4%)

SAFETY MEMBERS

20-24	5	3	0	0	2	0	0	0	0
25-29	55	19	1	1	26	0	1	4	3
30-34	96	21	1	2	57	1	1	7	6
35-39	128	16	1	2	89	1	2	11	6
40-44	114	6	1	2	91	1	1	9	3
45-49	49	1	0	1	43	0	0	3	1
50-54	29	0	0	0	27	0	0	2	0
55 & OVER	3	0	0	0	3	0	0	0	0
TOTAL	479	66 (13.8%)	4 ( .8%)	8 ( 1.7%)	338 (70.6%)	3 ( .6%)	5 ( 1.0%)	36 ( 7.5%)	19 ( 4.0%)





EMPLOYEES' RETIREMENT ASSOCIATION  
OF THE  
COUNTY OF FRESNO

Economic Actuarial Assumptions

Interest Rate and Salary Scale Assumptions

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

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

<u>Year Ended</u>	<u>Yield @ Book</u>
June 30, 1982	9.8%
June 30, 1983	10.4%
June 30, 1984	10.2%
June 30, 1985	9.8%
June 30, 1986	12.9%
June 30, 1987	14.7%
June 30, 1988	12.2%

The 7-year average return is approximately 11.4%. Based on this figure, the current investment policy, and including a certain amount of conservatism, the current  $8\frac{1}{2}\%$  long term interest rate assumption was still deemed appropriate.

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 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, the "real" rate of return has been set at  $2\frac{3}{4}\%$ , which is the difference between the  $8\frac{1}{2}\%$  interest assumption and  $5\frac{3}{4}\%$  inflation.

In addition to the inflation assumption, merit and longevity increases ranging from 5% to  $1\frac{1}{2}\%$  per year (depending on the member's classification and age) 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/or 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. The following three studies were performed by us:



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

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

VALUATION RESULTS

SECTION III

EMPLOYEES' RETIREMENT ASSOCIATION  
OF THE  
COUNTY OF FRESNO  
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. The annual amounts are based on the June 30, 1988 payroll.

	Composite Contribution Rates and Annual Amounts*			
	County		Employee	
	% of Payroll	Annual Amount	% of Payroll	Annual Amount
<u>Current rates @ 8-1/2% interest</u> <u>and 6-3/4% salary scale</u>	12.69%	\$16,757,000	5.50%	\$7,262,000
<u>Recalculated rates @ 8-1/2% interest</u> <u>and 6-3/4% salary scale (Study #1)</u>	12.63%	\$16,680,000	5.28%	\$6,971,000
<u>Study #2 rates @ 8-1/2% interest</u> <u>and 6-1/2% salary scale</u>	12.26%	\$16,183,000	5.12%	\$6,760,000
<u>Study #3 rates @ 8% interest</u> <u>and 6% salary scale</u>	13.60%	\$17,951,000	5.37%	\$7,090,000

\* 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 (Study #1), each based on the 8-1/2% assumption, we note a reduction in the composite County and member contribution rates.

Although the recalculated Study #1 composite County contribution rate decreased slightly, this was a net result of a higher Safety contribution rate and a lower General rate, as shown in Table B following this Section. The increase in the County Safety rate was due mostly to the inclusion in the Safety group of employees who entered the System over age 35 and were previously classified as General members. The effect of excluding these members from the General group resulted in a reduction in the County General rate.

The decrease in the member composite rate is mainly due to a decrease in the future cost of living liabilities, of which the members are paying half.

Study #2 results in lower composite County and member contribution rates due to the lower expected future salary increases, whereas Study #3 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, #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 22 years from the valuation date.

### **Recommendations**

We recommend that the Retirement Board adopt the Employee and County contribution rates resulting from Study #1. Study #1 continues to assume a long term interest rate of 8-1/2%, along with a 6-3/4% per year salary increase 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 (ii)) the funding test (funding progress ratio). We look forward to meeting with the Board and discussing the various topics covered in this report.

EMPLOYEES' RETIREMENT ASSOCIATION

TABLE A

OF THE  
COUNTY OF FRESNO

COMPARISON OF EMPLOYEE CONTRIBUTION RATES\*  
(Using percentage of monthly salary in excess of \$350)

Current Rates (Before Study)

8-1/2% interest and 6-3/4% salary scale assumptions

<u>General Members</u>				<u>Safety Members</u>			
<u>Entry Age</u>	<u>Basic</u>	<u>C.O.L.</u>	<u>Total</u>	<u>Entry Age</u>	<u>Basic</u>	<u>C.O.L.</u>	<u>Total</u>
25	3.18%	2.28%	5.46%	21	3.75%	2.69%	6.44%
35	3.50	2.51	6.01	25	3.86	2.77	6.63
45	3.91	2.80	6.71	30	4.03	2.89	6.92

Rates Updated by 6/30/88 Study

Study #1 - 8-1/2% interest and 6-3/4% salary scale assumptions

<u>General Members</u>				<u>Safety Members</u>			
<u>Entry Age</u>	<u>Basic</u>	<u>C.O.L.</u>	<u>Total</u>	<u>Entry Age</u>	<u>Basic</u>	<u>C.O.L.</u>	<u>Total</u>
25	3.22%	1.96%	5.18%	21	3.84%	2.34%	6.18%
35	3.55	2.16	5.71	25	3.95	2.41	6.36
45	3.96	2.41	6.37	30	4.12	2.51	6.63

Study #2 - 8-1/2% interest and 6-1/2% salary scale assumptions

<u>General Members</u>				<u>Safety Members</u>			
<u>Entry Age</u>	<u>Basic</u>	<u>C.O.L.</u>	<u>Total</u>	<u>Entry Age</u>	<u>Basic</u>	<u>C.O.L.</u>	<u>Total</u>
25	3.08%	1.89%	4.97%	21	3.70%	2.28%	5.98%
35	3.44	2.12	5.56	25	3.83	2.36	6.19
45	3.89	2.39	6.28	30	4.02	2.47	6.49

Study #3 - 8% interest and 6% salary scale assumptions

<u>General Members</u>				<u>Safety Members</u>			
<u>Entry Age</u>	<u>Basic</u>	<u>C.O.L.</u>	<u>Total</u>	<u>Entry Age</u>	<u>Basic</u>	<u>C.O.L.</u>	<u>Total</u>
25	3.20%	2.01%	5.21%	21	3.86%	2.43%	6.29%
35	3.58	2.25	5.83	25	4.00	2.52	6.52
45	4.05	2.55	6.60	30	4.20	2.64	6.84

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



## EMPLOYEES' RETIREMENT ASSOCIATION

TABLE B

OF THE  
COUNTY OF FRESNO

## COMPARISON OF EMPLOYER CONTRIBUTION RATES\*

Current Rates (Before Study)

8-1/2% interest and 6-3/4% salary scale assumptions

	General		Safety	
	% of Payroll	Annual Amount*	% of Payroll	Annual Amount*
Basic	8.98%	\$10,534,000	14.19%	\$2,090,000
COL	3.13	3,672,000	3.13	461,000
Total	12.11%	\$14,206,000	17.32%	\$2,551,000

Average Rate for the total group = 12.69%Rates Updated by 6/30/88 Study

Study #1 - 8-1/2% interest and 6-3/4% salary scale assumptions

	General		Safety	
	% of Payroll	Annual Amount*	% of Payroll	Annual Amount*
Basic	8.56%	\$10,041,000	14.87%	\$2,190,000
COL*	3.37	3,953,000	3.37	496,000
Total	11.93%	\$13,994,000	18.24%	\$2,686,000

Average Rate for the total group = 12.63%

Study #2 - 8-1/2% interest and 6-1/2% salary scale assumptions

	General		Safety	
	% of Payroll	Annual Amount*	% of Payroll	Annual Amount*
Basic	8.26%	\$ 9,689,000	14.33%	\$2,110,000
COL	3.32	3,895,000	3.32	489,000
Total	11.58%	\$13,584,000	17.65%	\$2,599,000

Average Rate for the total group = 12.26%

Study #3 - 8% interest and 6% salary scale assumptions

	General		Safety	
	% of Payroll	Annual Amount*	% of Payroll	Annual Amount*
Basic	9.01%	\$10,569,000	15.88%	\$2,338,000
COL	3.82	4,481,000	3.82	563,000
Total	12.83%	\$15,050,000	19.70%	\$2,901,000

Average Rate for the total group = 13.60%

\* Contributions are based on annual salaries on valuation date of \$117,304,000 for General and \$14,726,000 for Safety members.

\* Amounts were revised  
to 2.41%.



EMPLOYEES' RETIREMENT ASSOCIATION  
OF THE  
COUNTY OF FRESNO

Funding Progress of the System

Funding 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 a comparison of the previously calculated and recalculated funding ratios based on the recommended  $8\frac{1}{2}\%$  interest rate assumption.

	<u>June 30, 1986</u>	<u>June 30, 1988</u>
(1) Assets at Book Value	\$318,945,000	\$423,066,000
(2) Present Value of Benefits*	\$286,009,000	\$357,737,000
(3) Funding Ratio (1) ÷ (2)	112%	118%

\*Excludes accounts payable but includes investment contingency and undistributed earnings reserves.

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, 1988. In calculating the funding progress of the System, we have used all of the assets, including all undistributed earnings.

The funding ratio at the recommended  $8\frac{1}{2}\%$  interest rate assumption of 118% 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 #5 - "Plan Continuation" Assumption With Future Salary Increases

Reporting requirements were promulgated by the Governmental Accounting Standards Board (GASB) Statement #5, effective for plan years starting after December 15, 1986. The GASB #5 liabilities assume an ongoing plan, i.e., they include future withdrawals, deaths and disability requirements. 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 #5 liabilities and funding ratios as of July 1, 1987 and July 1, 1988, based on the 8-1/2% interest and 6-3/4% total salary scale assumptions, are as follows:

	<u>Previously Calculated</u>	<u>Recalculated</u>
(1) Pension Benefit Obligation:		
a. Current Retirants and Beneficiaries	\$182,214,000	\$199,036,000
b. Terminated Vested Participants	7,774,000	12,621,000
c. Active Participant's Accumulated Contributions	76,593,000	83,684,000
d. Active Participant's Employer Financed Portion:		
Vested	127,678,000	126,846,000
Nonvested	7,420,000	8,319,000
e. Retiree Health Insurance Reserve	<u>18,030,000</u>	<u>18,030,000</u>
f. Total Pension Benefit Obligation	\$419,709,000	\$448,536,000
(2) Assets at Book Value*	\$373,770,000	\$423,066,000
(3) Funding Ratio (2) ÷ (1)	89%	94%

\*Exclude accounts payable but includes investment contingency and undistributed earnings reserves.

The lower percentage funded under this ratio should not be of any concern. This funding ratio is expected to reach 100% in 22 years, which is the amortization period currently used to pay off the unfunded liabilities. A GASB #5 ratio of 94% compares favorably to those of other public retirement funds.



EMPLOYEES' RETIREMENT ASSOCIATION  
OF THE  
COUNTY OF FRESNO  
Actuarial 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, 1988, 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, 1988 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.&11. The reserves held for future adverse experience, but sometimes used for other Retirement System purposes.
12. Reserve created to pay retiree health insurance premiums.



EMPLOYEES' RETIREMENT ASSOCIATION  
OF THE COUNTY OF FRESNO

ACTUARIAL BALANCE SHEET\*

As of June 30, 1988

<u>ASSETS</u>			
	<u>Basic</u>	<u>C.O.L.</u>	<u>Total</u>
1. Total assets now held @ Book Value	\$337,637,595	\$ 86,634,405	\$424,272,000
2. Present value of future contributions by members	41,028,734	24,990,601	66,019,335
3. Present value of future contributions by County	<u>148,536,417</u>	<u>64,443,825</u>	<u>212,980,242</u>
4. Total actuarial assets	\$527,202,746	\$176,068,831	\$703,271,577
<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	\$126,500,640	\$ 72,535,096	\$199,035,736
6. Present value of retirement allowances to be granted:			
a) For service retirement	282,659,169	88,231,326	370,890,495
b) For disability retirement	16,884,491	5,955,555	22,840,046
7. Present value of death benefits to be granted:			
a) 6 months' salary death benefit and return of contributions	1,666,045	324,399	1,990,444
b) Death while eligible to retire	1,764,627	613,058	2,377,685
c) Duty death	1,013,306	402,775	1,416,081
8. Present value of members' contributions to be returned upon withdrawal before retirement	22,667,468	8,006,622	30,674,090
9. Contingency reserve	12,692,000	0	12,692,000
10. Accounts payable	1,206,000	0	1,206,000
11. Undistributed earnings	42,119,000	0	42,119,000
12. Retiree Health Insurance Reserve	<u>18,030,000</u>	<u>0</u>	<u>18,030,000</u>
13. Total actuarial liabilities	\$527,202,746	\$176,068,831	\$703,271,577

\*Based on 8-1/2% interest and 6-3/4% salary scale assumptions.





OF THE  
COUNTY OF FRESNO

Special Studies

Retiree Supplemental Health Insurance Benefits Study

As requested, we have calculated the lump sum (single sum) cost of paying a flat monthly amount of \$45.00 towards health insurance premiums, assuming 100% participation. Our calculations are based on the June 30, 1988 data and Study #1 economic actuarial assumptions as recommended in this report.

In the following table we summarize the lump sum liabilities required to provide medical coverage on a long-term basis for both present and future retired members. Please note that future retired members include only those from the present active members' group. In calculating the liabilities shown in Case 1 of the table, we assumed that the supplemental benefit will not increase in the future, whereas the liabilities in Cases 2 and 3 assume that this benefit will increase annually by 3% and 8%, respectively. The 8% represents the expected future inflationary increases in medical premiums.

To offset these liabilities, there was an \$18,030,000 reserve as of June 30, 1988. Under Case 1, this reserve exceeded the liability by \$3,367,000 and under Cases 2 and 3 the resulting net unfunded liabilities were \$953,000 and \$14,509,000, respectively.

	Summary of Results as of June 30, 1988		
	Case 1	Case 2	Case 3
	0% inflation 8½% interest	3% inflation 8½% interest	8% inflation 8½% interest
Number of Retired Members	2,154	2,154	2,154
Annual Supplemental Benefit @ \$45 per month	\$ 1,163,000	\$ 1,163,000	\$ 1,163,000
Lump Sum Liabilities			
a. Active	\$ 4,314,000	\$ 5,719,000	\$ 10,244,000
b. Retired	10,349,000	13,264,000	22,295,000
c. Total	\$ 14,663,000	\$ 18,983,000	\$ 32,539,000
Retiree Health Insurance Reserve	\$ 18,030,000	\$ 18,030,000	\$ 18,030,000
Net Unfunded Liabilities	\$ (3,367,000)	\$ 953,000	\$ 14,509,000

Please note that our calculations assume that the Retiree Health Insurance Reserve will be credited with interest at the actuarial rate of 8½% and that benefits will be paid out of this reserve. During the fiscal year 1987-88 this fund was not credited with interest but no payments were made from this reserve.

Possible Benefit Increases

If the Board desires to increase the \$45 benefit amount then the lump sum liability figures shown in the table can be used to calculate any other flat dollar benefit level. For example, if the \$45 benefit was increased by \$1 per month to \$46, then the corresponding lump sum costs would be \$14,989,000 ( $14,663,000 \times \$46 \div \$45$ ) for Case 1, the "0 inflation" scenario.



As an alternative to increasing the \$45 benefit by a fixed dollar amount for everyone, the Board may want to consider a formula which would take into account the retired members' service with Fresno County. For example, the following formula can be considered:

1. No increase above the \$45 will be given to retirees with less than 5 years of service; and
2. An additional increase equal to \$1.00 for each year of service will be given to employees with 5 or more years. (This increase could also be limited to some fixed number of years of service, such as 30.)

We feel that this approach would be more equitable and we will be happy to calculate the liabilities based on this approach if the Board so desires.



EMPLOYEES' RETIREMENT ASSOCIATION

SECTION III (iv)

OF THE  
COUNTY OF FRESNO

Special Studies

Transfers from Undistributed Earnings Reserve

As part of our study we were asked to discuss possible transfers from the Undistributed Earnings Reserve, which on June 30, 1988 stood at \$42,119,000.

The various counties we serve have transferred amounts from the unallocated earnings (beyond their Contingency Reserves) to accomplish the following:

1. Reduce the Cost of Living (COL) liabilities for both the County and the members. This "spreads" the effect on costs and reduces the County's and the members' contributions to COL on an ongoing basis rather than on a one year only basis.
2. Reduce the County annual COL contributions and reduce the members' COL contributions on a long-term basis by "spreading" the cost effect to the employees.
3. Reduce both the County and the members' annual COL contributions for one year (this means that unless further transfers are made in the following year the County COL rate and the members' COL rates will return to their original levels).
4. Provide for added retirement or COL benefits to present retired members or provide a basis for paying for part of the retired members' health insurance premiums.

It is important to note that when the annual COL contributions of either or both the County and the members are reduced, then the maximum transfers from the Undistributed Earnings are limited to the total annual dollars of COL contributions.

Summary of Results

Based on our calculations, each \$1,000,000 transfer from the Undistributed Earnings Reserve this year will have the effect of reducing the required contribution rate by .69% of total payroll for the County and .89% for the members as a group, if the members' transfer is on a non-refundable basis. Next year the contribution rates will increase to the pre-transfer levels unless another similar transfer takes place.

If these 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 .07% for the employees as a group. These reductions would continue for the next 22 years for the employer and for about 15 years for the employees (their average working lifetimes).

Our calculations were based on Study #1 actuarial assumptions. Furthermore we have assumed that the transfers, if any, will be made by June 30, 1989.



APPENDIX

SECTION IV

EMPLOYEES' RETIREMENT ASSOCIATION  
OF THE  
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, 1988, 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
62 and over	2.62	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.

EMPLOYEES' RETIREMENT ASSOCIATION  
OF THE  
COUNTY OF FRESNO

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 forward one year
General Females	1983 Female Group Annuity Mortality Table set forward one year
Safety	1983 Male Group Annuity Mortality Table set forward one year
(b) Disability	1981 Disability Mortality Table
(c) For Employee Contribution Purposes	
General	1983 Male Group Annuity Mortality Table with a two year setback
Safety	1983 Male Group Annuity Mortality Table set forward one year
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 6-3/4% per year. Approximately 1% of this increase is for merit and longevity and 5-3/4% is for inflation.
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 22 years from the June 30, 1988 valuation date.





Total Annual Salary and Membership Distribution  
of Active General Members  
as of July 1, 1988

MALES

PRESENT AGE	YEARS OF SERVICE							TOTAL
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 & OVER	
BELOW 20								
20 - 24	24 340,906							24 340,906
25 - 29	99 1,847,588	22 425,303	1 25,172					122 2,298,063
30 - 34	144 3,211,950	89 2,181,195	33 680,934	2 35,651				268 6,109,730
35 - 39	109 2,393,977	119 3,478,782	109 3,204,694	33 880,576				370 9,958,029
40 - 44	79 2,027,654	89 2,463,720	129 4,053,547	112 3,456,847	21 753,625			430 12,755,393
45 - 49	52 1,455,240	49 1,525,936	48 1,508,818	63 1,954,869	48 1,467,263	5 139,330	1 39,448	266 8,090,904
50 - 54	22 572,791	13 427,342	38 1,110,004	36 1,023,521	35 1,117,156	32 1,052,793	14 483,753	190 5,787,360
55 - 59	25 616,756	15 352,641	20 659,818	25 728,972	15 458,473	20 723,368	11 355,528	131 3,895,556
60 - 64	3 52,715	9 193,592	6 173,601	6 218,572	9 310,099	6 185,100	7 232,867	46 1,366,546
65 - 69	1 16,018	1 32,323			2 57,198			4 105,539
70 & OVER		1 16,018		1 51,498				2 67,516
TOTAL	558 12,535,595	407 11,096,852	384 11,416,588	278 8,350,506	130 4,163,814	63 2,100,591	33 1,111,596	1,853 50,775,542

AVERAGE AGE                   41.75  
AVERAGE SERVICE           10.25  
AVERAGE ENTRY AGE       31.50

Total Annual Salary and Membership Distribution  
of Active General Members  
as of July 1, 1988

FEMALES

PRESENT AGE	YEARS OF SERVICE							30 & OVER	TOTAL
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29			
BELOW 20									
20 - 24	88 1,369,994	1 7,528							89 1,377,522
25 - 29	258 4,862,495	87 1,665,568	8 151,968						353 6,680,031
30 - 34	262 5,236,922	220 4,895,463	86 1,858,450	2 40,623					570 12,031,458
35 - 39	291 5,597,873	195 4,547,898	114 2,795,267	50 1,182,804	2 44,596				652 14,168,438
40 - 44	204 3,918,207	132 3,061,396	104 2,736,534	76 1,941,863	31 776,143	3 62,384			550 12,496,527
45 - 49	102 1,825,166	90 1,819,177	70 1,628,490	36 855,393	36 920,339	14 310,332	1 23,976		349 7,382,873
50 - 54	60 1,075,806	59 1,242,299	62 1,414,278	34 785,686	27 602,148	8 235,496	7 150,095		257 5,505,808
55 - 59	40 783,312	44 921,623	39 812,643	34 683,698	25 581,134	6 142,841	8 206,759		196 4,132,010
60 - 64	11 192,597	30 556,665	22 466,242	17 325,285	19 394,248	5 121,439	3 82,303		107 2,138,779
65 - 69	2 30,957	7 128,538	6 131,892	7 148,535	3 61,109	3 71,537	1 16,591		29 589,159
70 & OVER	1 9,268	1 16,591							2 25,859
TOTAL	1,319 24,902,597	866 18,862,746	511 11,995,764	256 5,963,887	143 3,379,717	39 944,029	20 479,724		3,154 66,528,464

AVERAGE AGE                   40.00  
AVERAGE SERVICE           7.75  
AVERAGE ENTRY AGE       32.25

Total Annual Salary and Membership Distribution  
of Active Safety Members  
as of July 1, 1988

MALES AND FEMALES

YEARS OF SERVICE

<u>PRESENT AGE</u>	<u>0 - 4</u>	<u>5 - 9</u>	<u>10 - 14</u>	<u>15 - 19</u>	<u>20 - 24</u>	<u>25 - 29</u>	<u>30 &amp; OVER</u>	<u>TOTAL</u>
BELOW 20								
20 - 24	5 100,662							5 100,662
25 - 29	42 970,077	13 371,255						55 1,341,332
30 - 34	29 630,390	54 1,597,975	13 424,319					96 2,652,684
35 - 39	11 248,148	32 910,817	69 2,236,403	16 590,623				128 3,985,991
40 - 44	6 145,077	11 359,262	32 1,053,763	52 1,742,567	13 490,553			114 3,791,222
45 - 49	3 93,458	2 80,794	12 382,209	15 506,887	15 575,127	2 90,213		49 1,728,688
50 - 54		1 24,496	1 27,667	7 238,939	13 481,876	7 255,628		29 1,028,606
55 & OVER					3 97,277			3 97,277
TOTAL	96 2,187,812	113 3,344,599	127 4,124,361	90 3,079,016	44 1,644,833	9 345,841		479 14,726,462

AVERAGE AGE 38.00  
AVERAGE SERVICE 11.00  
AVERAGE ENTRY AGE 27.00





COUNTY OF FRESNOSECTION IV (iv)Summary of Monthly Allowances as of June 30, 1988

## GENERAL MEMBERS

<u>Service</u>	<u>Number</u>	<u>Monthly Allowance</u>		
		<u>Basic</u>	<u>Cost of Living</u>	<u>Total</u>
Unmodified	1,327	\$ 810,964	\$ 175,240	\$ 986,204
Option 1	214	67,684	21,310	88,994
Options 2 & 3	62	28,364	4,689	33,053
Total	1,603	\$ 907,012	\$ 201,239	\$1,108,251
<u>Disability</u>				
Unmodified	128	\$ 49,002	\$ 15,307	\$ 64,309
Option 1	18	4,055	1,675	5,730
Options 2 & 3	3	357	105	462
Total	149	\$ 53,414	\$ 17,087	\$ 70,501
<u>Beneficiaries</u>				
Total	217	\$ 60,564	\$ 23,386	\$ 83,950
<u>TOTAL</u>	1,969	\$ 1,020,990	\$ 241,712	\$1,262,702
	=====	=====	=====	=====

## SAFETY MEMBERS

<u>Service</u>	<u>Number</u>	<u>Monthly Allowance</u>		
		<u>Basic</u>	<u>Cost of Living</u>	<u>Total</u>
Unmodified	126	\$ 149,952	\$ 32,550	\$ 182,502
Option 1	3	2,826	791	3,617
Options 2 & 3	2	441	270	711
Total	131	\$ 153,219	\$ 33,611	\$ 186,830
<u>Disability</u>				
Unmodified	28	\$ 24,605	\$ 6,062	\$ 30,667
Option 1	2	1,335	472	1,807
Options 2 & 3	0	0	0	0
Total	30	\$ 25,940	\$ 6,534	\$ 32,474
<u>Beneficiaries</u>				
Total	24	\$ 10,204	\$ 4,467	\$ 14,671
<u>TOTAL</u>	185	\$ 189,363	\$ 44,612	\$ 233,975
	===	=====	=====	=====



Total Annual Benefit and Membership Distribution  
of Retired General Members  
as of July 1, 1988

MALES

YEARS OF RETIREMENT

PRESENT AGE	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 & OVER	TOTAL
BELOW 45		3 20,167	2 11,639		1 2,354			6 31,806
45 - 49	1 5,385		1 10,203					2 15,588
50 - 54	35 270,584	3 47,639	2 5,047					40 323,270
55 - 59	62 873,435	26 198,550	2 38,463				1 1,236	91 1,111,684
60 - 64	75 1,195,889	48 515,626	14 80,137	4 32,707	3 8,893			144 1,833,252
65 - 69	47 672,067	97 1,280,644	32 219,667	16 62,373	1 18,846	1 1,224		194 2,254,821
70 - 74	8 149,892	51 542,923	60 591,247	12 34,093				131 1,318,155
75 - 79	1 12,192	6 58,392	42 265,124	24 136,646	3 8,056	3 7,315		79 487,725
80 - 84			11 145,155	32 162,367	12 67,758	3 7,431		58 382,711
85 - 89				2 6,443	7 28,632	4 9,284	1 1,337	14 45,696
90 & OVER					5 16,082	5 17,146	3 13,019	13 46,247
TOTAL	229 3,179,444	234 2,663,941	166 1,366,682	90 434,629	32 148,267	16 42,400	5 15,592	772 7,850,955

AVERAGE AGE 67.50  
AVERAGE YEARS RETIRED 8.75  
AVERAGE RETIREMENT AGE 58.75



Total Annual Benefit and Membership Distribution  
of Retired General Members  
as of July 1, 1988

FEMALES

PRESENT AGE	YEARS OF RETIREMENT							TOTAL
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 & OVER	
BELOW 45	4 48,177	4 46,155	4 21,903	1 4,933	1 6,802			14 127,970
45 - 49	4 31,270	1 8,148	3 10,069		1 1,034			9 50,521
50 - 54	29 177,180	4 27,178	4 30,036	3 8,871				40 243,265
55 - 59	56 505,298	34 160,179	9 67,819	4 12,213				103 745,509
60 - 64	107 978,683	60 397,363	29 121,047	7 22,619	2 6,429	1 1,661		206 1,527,802
65 - 69	66 636,606	110 932,287	56 243,691	11 35,789				243 1,848,373
70 - 74	8 77,230	66 498,793	105 642,472	38 141,690	8 37,775	1 2,506		226 1,400,466
75 - 79	2 5,611	10 77,912	79 379,185	61 205,662	18 33,551	3 4,248		173 706,169
80 - 84		1 7,564	13 68,795	62 236,198	26 76,150	5 7,178		107 395,885
85 - 89				9 26,865	28 94,188	9 41,646	4 7,896	50 170,595
90 & OVER			1 10,698		5 9,711	12 44,424	8 20,087	26 84,920
TOTAL	276 2,460,055	290 2,155,579	303 1,595,715	196 694,840	89 265,640	31 101,663	12 27,983	1,197 7,301,475

AVERAGE AGE 69.50  
 AVERAGE YEARS RETIRED 10.75  
 AVERAGE RETIREMENT AGE 58.75





Total Annual Benefit and Membership Distribution  
of Retired Safety Members  
as of July 1, 1988

MALES AND FEMALES

YEARS OF RETIREMENT

PRESENT AGE	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 & OVER	TOTAL
BELOW 45	8 179,471	1 14,588	3 9,780					12 203,839
45 - 49	8 97,048	1 14,618						9 111,666
50 - 54	6 71,560	3 34,308	1 8,286					10 114,154
55 - 59	23 583,487	18 278,422	2 30,986	1 4,290	1 4,601			45 901,786
60 - 64	3 61,415	15 344,399	19 216,994	3 20,600		2 21,195	1 33,822	43 698,425
65 - 69	1 63,938	8 151,809	15 198,708	7 46,989				31 461,444
70 - 74			9 86,313	12 127,285				21 213,598
75 - 79				6 46,862	1 2,458			7 49,320
80 - 84	1 4,521			3 23,606				4 28,127
85 - 89				2 23,320			1 2,040	3 25,360
90 & OVER								
TOTAL	50 1,061,440	46 838,144	49 551,067	34 292,952	2 7,059	2 21,195	2 35,862	185 2,807,719

AVERAGE AGE 61.75  
 AVERAGE YEARS RETIRED 9.25  
 AVERAGE RETIREMENT AGE 52.50



Probabilities of Separation Prior to RetirementGeneral Male Members

Age	Withdrawal	Ordinary Death	Ordinary Disability	Service	Death While Eligible	Duty Death	Duty Disability	Terminated Vested
20	.1850	.0002	.0000	.0000	.0000	.0001	.0001	.0005
21	.1750	.0002	.0000	.0000	.0000	.0001	.0001	.0005
22	.1650	.0002	.0000	.0000	.0000	.0001	.0001	.0005
23	.1550	.0002	.0000	.0000	.0000	.0001	.0001	.0005
24	.1470	.0002	.0000	.0000	.0000	.0001	.0001	.0005
25	.1400	.0003	.0001	.0000	.0001	.0001	.0001	.0010
26	.1330	.0003	.0001	.0000	.0001	.0001	.0001	.0010
27	.1270	.0003	.0001	.0000	.0001	.0001	.0001	.0010
28	.1220	.0003	.0001	.0000	.0001	.0001	.0001	.0015
29	.1180	.0003	.0001	.0000	.0001	.0001	.0001	.0020
30	.1140	.0004	.0001	.0000	.0001	.0001	.0001	.0025
31	.1090	.0004	.0001	.0000	.0001	.0001	.0001	.0030
32	.1030	.0004	.0001	.0000	.0001	.0001	.0001	.0035
33	.0960	.0004	.0002	.0000	.0002	.0001	.0001	.0040
34	.0890	.0004	.0002	.0000	.0002	.0001	.0001	.0045
35	.0820	.0005	.0003	.0000	.0002	.0001	.0002	.0050
36	.0750	.0005	.0003	.0000	.0002	.0001	.0002	.0060
37	.0690	.0005	.0003	.0000	.0002	.0001	.0002	.0070
38	.0630	.0005	.0004	.0000	.0002	.0001	.0002	.0090
39	.0580	.0006	.0004	.0000	.0002	.0001	.0002	.0115
40	.0540	.0006	.0005	.0000	.0003	.0001	.0003	.0120
41	.0500	.0006	.0006	.0000	.0003	.0001	.0003	.0125
42	.0460	.0007	.0008	.0000	.0003	.0001	.0003	.0130
43	.0420	.0007	.0010	.0000	.0004	.0001	.0003	.0130
44	.0390	.0008	.0012	.0000	.0004	.0001	.0003	.0125
45	.0360	.0008	.0014	.0000	.0005	.0001	.0004	.0115
46	.0330	.0009	.0016	.0000	.0005	.0001	.0005	.0105
47	.0300	.0010	.0018	.0000	.0006	.0001	.0006	.0095
48	.0270	.0011	.0020	.0000	.0006	.0001	.0007	.0085
49	.0240	.0012	.0022	.0000	.0007	.0001	.0008	.0075
50	.0220	.0013	.0025	.0500	.0008	.0001	.0009	.0070
51	.0200	.0014	.0028	.0350	.0009	.0001	.0010	.0065
52	.0190	.0015	.0031	.0350	.0010	.0002	.0011	.0060
53	.0180	.0016	.0035	.0350	.0011	.0002	.0012	.0055
54	.0170	.0017	.0039	.0450	.0012	.0002	.0013	.0050
55	.0160	.0018	.0043	.0600	.0013	.0002	.0014	.0045
56	.0150	.0019	.0045	.0700	.0014	.0002	.0016	.0040
57	.0150	.0020	.0047	.0850	.0015	.0002	.0017	.0035
58	.0140	.0021	.0049	.1000	.0016	.0002	.0019	.0030
59	.0130	.0022	.0051	.1300	.0017	.0003	.0020	.0025
60	.0120	.0024	.0053	.1500	.0018	.0003	.0021	.0025
61	.0110	.0026	.0054	.1800	.0019	.0003	.0021	.0025
62	.0110	.0028	.0055	.4000	.0020	.0003	.0022	.0025
63	.0100	.0030	.0056	.2400	.0022	.0003	.0023	.0025
64	.0100	.0032	.0057	.2500	.0024	.0004	.0024	.0025
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 RetirementGeneral Female Members

Age	Withdrawal	Ordinary Death	Ordinary Disability	Service	Death While Eligible	Duty Death	Duty Disability	Terminated Vested
20	.2000	.0001	.0000	.0000	.0000	.0000	.0001	.0005
21	.1900	.0001	.0000	.0000	.0000	.0000	.0001	.0005
22	.1800	.0001	.0000	.0000	.0000	.0000	.0001	.0005
23	.1700	.0001	.0000	.0000	.0000	.0000	.0001	.0010
24	.1630	.0001	.0000	.0000	.0000	.0000	.0001	.0010
25	.1570	.0002	.0001	.0000	.0001	.0000	.0001	.0010
26	.1520	.0002	.0001	.0000	.0001	.0000	.0001	.0015
27	.1470	.0002	.0001	.0000	.0001	.0000	.0001	.0020
28	.1410	.0002	.0001	.0000	.0001	.0000	.0001	.0025
29	.1340	.0003	.0001	.0000	.0001	.0000	.0001	.0035
30	.1260	.0003	.0001	.0000	.0001	.0000	.0001	.0050
31	.1180	.0003	.0001	.0000	.0001	.0000	.0001	.0055
32	.1100	.0003	.0002	.0000	.0001	.0000	.0001	.0060
33	.1020	.0004	.0002	.0000	.0001	.0000	.0001	.0060
34	.0940	.0004	.0002	.0000	.0001	.0000	.0001	.0055
35	.0870	.0004	.0003	.0000	.0001	.0000	.0001	.0055
36	.0820	.0005	.0003	.0000	.0001	.0000	.0001	.0055
37	.0770	.0005	.0004	.0000	.0001	.0000	.0001	.0050
38	.0720	.0005	.0004	.0000	.0001	.0000	.0001	.0050
39	.0670	.0005	.0005	.0000	.0001	.0000	.0001	.0050
40	.0630	.0006	.0005	.0000	.0001	.0000	.0001	.0050
41	.0600	.0006	.0006	.0000	.0001	.0000	.0001	.0050
42	.0570	.0006	.0007	.0000	.0001	.0000	.0001	.0055
43	.0540	.0007	.0008	.0000	.0001	.0000	.0001	.0065
44	.0510	.0007	.0009	.0000	.0001	.0000	.0001	.0090
45	.0480	.0007	.0010	.0000	.0002	.0000	.0001	.0120
46	.0450	.0008	.0011	.0000	.0002	.0000	.0002	.0110
47	.0420	.0008	.0012	.0000	.0002	.0000	.0002	.0100
48	.0390	.0009	.0013	.0000	.0002	.0000	.0002	.0090
49	.0360	.0009	.0014	.0000	.0003	.0000	.0002	.0085
50	.0330	.0010	.0015	.0350	.0003	.0000	.0003	.0075
51	.0300	.0010	.0016	.0250	.0003	.0000	.0003	.0065
52	.0270	.0011	.0017	.0250	.0004	.0000	.0003	.0060
53	.0240	.0011	.0018	.0250	.0004	.0000	.0003	.0055
54	.0220	.0012	.0020	.0250	.0004	.0000	.0003	.0055
55	.0200	.0012	.0022	.0350	.0004	.0000	.0004	.0055
56	.0190	.0013	.0024	.0350	.0005	.0000	.0004	.0055
57	.0180	.0014	.0026	.0400	.0005	.0000	.0004	.0055
58	.0170	.0015	.0028	.0500	.0005	.0000	.0004	.0055
59	.0160	.0016	.0030	.0800	.0006	.0000	.0005	.0055
60	.0150	.0018	.0032	.1400	.0006	.0000	.0005	.0055
61	.0140	.0019	.0034	.1400	.0006	.0000	.0005	.0045
62	.0130	.0020	.0036	.3000	.0007	.0000	.0005	.0035
63	.0120	.0021	.0038	.1250	.0007	.0000	.0005	.0025
64	.0110	.0022	.0040	.2500	.0007	.0000	.0005	.0015
65	.0000	.0024	.0000	.3500	.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	.5000	.0009	.0000	.0000	.0000
69	.0000	.0028	.0000	.6000	.0009	.0000	.0000	.0000
70	.0000	.0000	.0000	1.0000	.0000	.0000	.0000	.0000



Probabilities of Separation Prior to RetirementSafety Members

Age	Withdrawal	Ordinary Death	Ordinary Disability	Service	Death While Eligible	Duty Death	Duty Disability	Terminated Vested
20	.0810	.0002	.0000	.0000	.0000	.0002	.0005	.0010
21	.0780	.0002	.0000	.0000	.0000	.0002	.0005	.0011
22	.0750	.0002	.0000	.0000	.0000	.0002	.0005	.0012
23	.0720	.0002	.0000	.0000	.0000	.0002	.0006	.0013
24	.0680	.0002	.0000	.0000	.0000	.0002	.0007	.0014
25	.0630	.0003	.0002	.0000	.0001	.0003	.0007	.0015
26	.0580	.0003	.0002	.0000	.0001	.0003	.0008	.0017
27	.0530	.0003	.0003	.0000	.0002	.0003	.0008	.0019
28	.0480	.0003	.0003	.0000	.0002	.0003	.0009	.0021
29	.0420	.0003	.0003	.0000	.0002	.0003	.0010	.0023
30	.0370	.0004	.0003	.0000	.0002	.0004	.0010	.0025
31	.0320	.0004	.0004	.0000	.0002	.0004	.0011	.0027
32	.0280	.0004	.0004	.0000	.0002	.0004	.0013	.0030
33	.0250	.0004	.0004	.0000	.0002	.0004	.0015	.0035
34	.0230	.0004	.0005	.0000	.0002	.0004	.0017	.0040
35	.0220	.0005	.0006	.0000	.0002	.0005	.0019	.0045
36	.0210	.0005	.0006	.0000	.0002	.0005	.0021	.0052
37	.0200	.0005	.0007	.0000	.0002	.0005	.0023	.0060
38	.0190	.0005	.0008	.0000	.0002	.0005	.0025	.0065
39	.0180	.0005	.0009	.0000	.0002	.0005	.0029	.0060
40	.0170	.0006	.0010	.0000	.0003	.0006	.0032	.0055
41	.0150	.0006	.0010	.0000	.0003	.0006	.0036	.0050
42	.0130	.0006	.0011	.0000	.0003	.0006	.0039	.0045
43	.0110	.0007	.0012	.0000	.0003	.0007	.0043	.0041
44	.0090	.0007	.0012	.0000	.0003	.0007	.0047	.0037
45	.0070	.0008	.0013	.0500	.0004	.0008	.0053	.0033
46	.0060	.0008	.0014	.0400	.0004	.0008	.0058	.0030
47	.0050	.0009	.0014	.0450	.0005	.0009	.0065	.0027
48	.0040	.0009	.0015	.0500	.0006	.0009	.0072	.0024
49	.0030	.0010	.0016	.0550	.0007	.0010	.0080	.0023
50	.0000	.0010	.0016	.1300	.0008	.0010	.0088	.0020
51	.0000	.0011	.0017	.0800	.0009	.0011	.0096	.0000
52	.0000	.0011	.0018	.0800	.0010	.0012	.0104	.0000
53	.0000	.0012	.0019	.0900	.0011	.0013	.0112	.0000
54	.0000	.0012	.0020	.1000	.0012	.0013	.0120	.0000
55	.0000	.0013	.0020	.2700	.0013	.0014	.0127	.0000
56	.0000	.0013	.0021	.2700	.0014	.0015	.0135	.0000
57	.0000	.0014	.0022	.2500	.0015	.0016	.0143	.0000
58	.0000	.0014	.0022	.3000	.0016	.0017	.0151	.0000
59	.0000	.0015	.0023	.7000	.0017	.0018	.0159	.0000
60	.0000	.0000	.0000	1.0000	.0000	.0000	.0000	.0000



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	2.07%	3.10%	1.26%	1.89%	3.33%	4.99%
17	2.07	3.11	1.26	1.89	3.33	5.00
18	2.08	3.12	1.27	1.90	3.35	5.02
19	2.09	3.13	1.27	1.91	3.36	5.04
20	2.09	3.14	1.27	1.91	3.36	5.05
21	2.10	3.15	1.28	1.92	3.38	5.07
22	2.11	3.16	1.29	1.92	3.40	5.08
23	2.12	3.18	1.29	1.94	3.41	5.12
24	2.13	3.20	1.30	1.95	3.43	5.15
25	2.15	3.22	1.31	1.96	3.46	5.18
26	2.16	3.24	1.32	1.97	3.48	5.21
27	2.18	3.27	1.33	1.99	3.51	5.26
28	2.20	3.30	1.34	2.01	3.54	5.31
29	2.22	3.33	1.35	2.03	3.57	5.36
30	2.24	3.36	1.36	2.05	3.60	5.41
31	2.27	3.40	1.38	2.07	3.65	5.47
32	2.29	3.43	1.39	2.09	3.68	5.52
33	2.31	3.47	1.41	2.11	3.72	5.58
34	2.34	3.51	1.43	2.14	3.77	5.65
35	2.37	3.55	1.44	2.16	3.81	5.71
36	2.39	3.59	1.46	2.19	3.85	5.78
37	2.42	3.63	1.47	2.21	3.89	5.84
38	2.45	3.67	1.49	2.24	3.94	5.91
39	2.47	3.71	1.50	2.26	3.97	5.97
40	2.50	3.75	1.52	2.28	4.02	6.03
41	2.53	3.79	1.54	2.31	4.07	6.10
42	2.56	3.84	1.56	2.34	4.12	6.18
43	2.59	3.88	1.58	2.36	4.17	6.24
44	2.61	3.92	1.59	2.39	4.20	6.31
45	2.64	3.96	1.61	2.41	4.25	6.37
46	2.67	4.01	1.63	2.44	4.30	6.45
47	2.70	4.05	1.64	2.47	4.34	6.52
48	2.73	4.09	1.66	2.49	4.39	6.58
49	2.76	4.14	1.68	2.52	4.44	6.66
50	2.79	4.18	1.70	2.55	4.49	6.73
51	2.82	4.23	1.72	2.58	4.54	6.81
52	2.85	4.27	1.74	2.60	4.59	6.87
53	2.88	4.32	1.75	2.63	4.63	6.95
54	2.91	4.36	1.77	2.66	4.68	7.02
55	2.94	4.41	1.79	2.69	4.73	7.10
56	2.97	4.45	1.81	2.71	4.78	7.16
57	3.00	4.50	1.83	2.74	4.83	7.24
58	3.03	4.55	1.85	2.77	4.88	7.32
59 & Over	3.06	4.59	1.86	2.80	4.92	7.39

\* As a percentage of salary based upon 8.50% interest and 6.75% salary scale assumptions.

\*\* 60.91% 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	2.51%	3.77%	1.53%	2.30%	4.04%	6.07%
19	2.53	3.79	1.54	2.31	4.07	6.10
20	2.54	3.81	1.55	2.32	4.09	6.13
21	2.56	3.84	1.56	2.34	4.12	6.18
22	2.57	3.86	1.57	2.35	4.14	6.21
23	2.59	3.89	1.58	2.37	4.17	6.26
24	2.61	3.92	1.59	2.39	4.20	6.31
25	2.63	3.95	1.60	2.41	4.23	6.36
26	2.65	3.98	1.61	2.42	4.26	6.40
27	2.67	4.01	1.63	2.44	4.30	6.45
28	2.70	4.05	1.64	2.47	4.34	6.52
29	2.72	4.08	1.66	2.49	4.38	6.57
30	2.75	4.12	1.68	2.51	4.43	6.63
31	2.77	4.16	1.69	2.53	4.46	6.69
32	2.80	4.20	1.71	2.56	4.51	6.76
33	2.83	4.24	1.72	2.58	4.55	6.82
34	2.85	4.28	1.74	2.61	4.59	6.89
35	2.89	4.33	1.76	2.64	4.65	6.97
36	2.91	4.37	1.77	2.66	4.68	7.03
37	2.95	4.42	1.80	2.69	4.75	7.11
38	2.98	4.47	1.82	2.72	4.80	7.19
39	3.01	4.51	1.83	2.75	4.84	7.26
40	3.04	4.56	1.85	2.78	4.89	7.34
41	3.07	4.61	1.87	2.81	4.94	7.42
42	3.11	4.66	1.89	2.84	5.00	7.50
43	3.14	4.71	1.91	2.87	5.05	7.58
44	3.17	4.76	1.93	2.90	5.10	7.66
45	3.21	4.81	1.96	2.93	5.17	7.74
46	3.24	4.86	1.97	2.96	5.21	7.82
47	3.27	4.91	1.99	2.99	5.26	7.90
48	3.31	4.96	2.02	3.02	5.33	7.98
49 & Over	3.34	5.01	2.03	3.05	5.37	8.06

\* As a percentage of salary based upon 8.50% interest and 6.75% salary scale assumptions.

\*\* 60.91% of basic rates.



EMPLOYEES' RETIREMENT ASSOCIATION  
OF THE  
COUNTY OF FRESNO

SECTION IV (viii)

Accounting Balance Sheet  
As of June 30, 1988

ASSETS

1.	Cash		\$ 23,417,000
2.	Contributions and other receivables		5,651,000
3.	Securities owned (cost basis)		389,901,000
4.	Interest and dividends receivable		5,246,000
5.	Prepaid expenses		<u>57,000</u>
6.	Total Assets		<u>\$424,272,000</u>

LIABILITIES AND FUND BALANCE

6.	Members' deposit reserve		
	a. Normal contributions	\$55,429,000	
	b. Cost of living contributions	<u>28,255,000</u>	\$ 83,684,000
7.	Current service advance reserve		59,624,000
8.	Current service pension reserve		122,727,000
9.	Annuity reserve		23,769,000
10.	Survivors' death benefit reserve		2,042,000
11.	Cost of living reserve		58,379,000
12.	Investment contingency reserve		12,692,000
13.	Undistributed earnings		42,119,000
14.	Retiree health insurance reserve		18,030,000
15.	Warrants and accounts payable		<u>1,206,000</u>
16.	Total Liabilities		<u>\$424,272,000</u>



## Ratio of Current Compensation to Compensation Anticipated at Retirement Age

AGE	GENERAL MEMBERS			SAFETY MEMBERS		
	Study #1	Study #2	Study #3	Study #1	Study #2	Study #3
20	.034	.039	.049	.074	.081	.098
21	.039	.043	.055	.080	.088	.106
22	.043	.048	.060	.087	.095	.114
23	.047	.053	.066	.094	.103	.123
24	.052	.058	.072	.102	.111	.131
25	.057	.063	.078	.110	.119	.140
26	.062	.069	.085	.118	.127	.150
27	.067	.075	.091	.126	.136	.159
28	.073	.081	.098	.135	.146	.170
29	.079	.087	.106	.145	.156	.181
30	.085	.093	.113	.155	.167	.192
31	.092	.100	.121	.166	.178	.204
32	.098	.108	.129	.178	.190	.217
33	.105	.114	.136	.190	.203	.230
34	.111	.121	.144	.203	.216	.244
35	.118	.128	.152	.217	.230	.259
36	.126	.136	.160	.231	.245	.274
37	.134	.145	.169	.246	.260	.290
38	.142	.153	.178	.262	.276	.306
39	.151	.162	.188	.278	.292	.323
40	.160	.172	.199	.295	.309	.340
41	.171	.183	.210	.314	.328	.359
42	.181	.194	.221	.334	.348	.379
43	.193	.205	.233	.354	.369	.400
44	.205	.218	.247	.377	.392	.423
45	.218	.231	.260	.400	.414	.445
46	.232	.245	.275	.426	.440	.471
47	.246	.260	.290	.453	.467	.497
48	.261	.275	.306	.481	.495	.524
49	.277	.291	.322	.511	.525	.553
50	.295	.309	.340	.543	.556	.583
51	.314	.329	.360	.577	.590	.616
52	.333	.348	.379	.614	.626	.650
53	.354	.369	.400	.652	.663	.686
54	.377	.391	.422	.694	.703	.724
55	.401	.415	.446	.737	.746	.764
56	.426	.440	.470	.784	.791	.806
57	.453	.467	.496	.834	.840	.852
58	.481	.494	.523	.885	.889	.898
59	.511	.525	.553	.941	.943	.948
60	.543	.556	.583	1.000	1.000	1.000
61	.577	.589	.615			
62	.614	.626	.650			
63	.652	.663	.686			
64	.694	.703	.724			
65	.737	.746	.764			
66	.784	.791	.806			
67	.833	.839	.851			
68	.885	.889	.898			
69	.941	.943	.948			
70	1.000	1.000	1.000			

Study #1 = 8.50% interest with salary scale of merit and longevity plus 5.75% for inflation.  
Study #2 = 8.50% interest with salary scale of merit and longevity plus 5.50% for inflation.  
Study #3 = 8.00% interest with salary scale of merit and longevity plus 5.00% for inflation.

EMPLOYEES' RETIREMENT ASSOCIATIONOF THECOUNTY OF FRESNOYears of Life Expectancy after Service RetirementGeneral and Safety Members

<u>Age</u>	<u>Years of Life Expectancy</u>		<u>Age</u>	<u>Years of Life Expectancy</u>	
	<u>Male</u>	<u>Female</u>		<u>Male</u>	<u>Female</u>
50	28.30	33.97	80	7.21	9.63
51	27.42	33.03	81	6.91	9.09
52	26.55	32.10	82	6.43	8.57
53	25.68	31.16	83	6.07	8.06
54	24.82	30.23	84	5.73	7.58
55	23.97	29.31	85	5.41	7.11
56	23.13	28.39	86	5.10	6.66
57	22.29	27.48	87	4.82	6.23
58	21.46	26.57	88	4.54	5.81
59	20.64	25.67	89	4.28	5.40
60	19.83	24.78	90	4.04	5.02
61	19.02	23.89	91	3.80	4.66
62	18.23	23.01	92	3.58	4.31
63	17.45	22.15	93	3.37	3.98
64	16.69	21.28	94	3.16	3.67
65	15.95	20.43	95	2.98	3.37
66	15.23	19.59	96	2.80	3.10
67	14.52	18.76	97	2.62	2.84
68	13.84	17.94	98	2.45	2.59
69	13.18	17.13	99	2.28	2.36
70	12.54	16.34	100	2.11	2.14
71	11.92	15.56	101	1.95	1.93
72	11.31	14.81	102	1.78	1.74
73	10.72	14.08	103	1.61	1.55
74	10.15	13.37	104	1.43	1.37
75	9.60	12.69	105	1.26	1.19
76	9.08	12.03	106	1.09	1.03
77	8.57	11.39	107	.92	.87
78	8.10	10.78	108	.74	.71
79	7.64	10.20	109	.50	.50

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



EMPLOYEES' RETIREMENT ASSOCIATION  
OF THE  
COUNTY OF FRESNO

Years of Life Expectancy after Disability Retirement

General Members

<u>Age</u>	<u>Male &amp; Female</u>	<u>Age</u>	<u>Male &amp; Female</u>	<u>Age</u>	<u>Male &amp; 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



EMPLOYEES' RETIREMENT ASSOCIATION  
OF THE  
COUNTY OF FRESNO

Years of Life Expectancy after Disability Retirement

Safety Members

<u>Age</u>	<u>Male &amp; Female</u>	<u>Age</u>	<u>Male &amp; Female</u>	<u>Age</u>	<u>Male &amp; 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

