

ACTUARIAL REPORT
EMPLOYEES' RETIREMENT ASSOCIATION
OF THE
COUNTY OF FRESNO

Made to the Board of Retirement
as of June 30, 1977

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January 20, 1978

Board of Retirement
Employees' Retirement Association
County of Fresno
P. O. Box 747
Fresno, California 94712

Ladies and Gentlemen:

Pursuant to our agreement with you, we have completed an actuarial valuation and experience analysis of the County's Retirement System as of June 30, 1977, as well as a Cost-of-Living update. We have also studied the cost of certain proposed amendments to the System. 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 the results of additional valuations made based on different inflationary and investment assumptions with those of the basic 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
Actuaries and Consultants

By Robert D. Drisko
Robert D. Drisko

RDD/jd
Enclosures

EMPLOYEES' RETIREMENT ASSOCIATION

OF THE

COUNTY OF FRESNO

June 30, 1977

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
Letter of Transmittal	-
I. Introduction	1
II. Summary of Results and Recommendations	4
III. Basic Valuation Results	7
(i) Basic Contribution Rates	8
(ii) Cost-of-Living Contribution Rates	11
(iii) Funding Progress of the System	14
(iv) Actuarial Balance Sheet	16
(v) Analysis of Effect of Various Interest Rate and Salary Scale Assumptions upon Contribution Requirements	18
IV. Experience Analysis	29
A. Probabilities of Separation from Service Prior to Retirement	30
B. Post-Retirement Mortality	32
C. Mortality Basis for Employee Contribution Rates	33
D. Salary Scales	33
E. Experience Analysis Schedule	33
V. Proposed Amendments to the System	34
1. Increase Maximum Allowance for Service Connected Disability (Section 31727.5)	36
2. Increase Safety Membership Group (Section 31558.2)	37
3. \$750 Lump Sum Death Benefit (Sections 31789 and 31790)	38
4. Increase Maximum Annual Cost of Living Change (Section 31874.2)	39
5. Grant Additional One Time Cost of Living Increase (Section 31874.1)	42
6. Grant Flat Percentage Increase to Retired Members (Article 16.6)	43
7. Grant Credit for Other Public Service or Military Service (Section 31641.1)	44

1/20/78

<u>Section</u>	<u>Page</u>
VI. Appendix	46
(i) Major Plan Provisions of the Present System	47
(ii) Summary of Assumptions of Basic Study and Funding Method	51
(iii) Total Annual Salary and Active Membership Distribution	
General Member Male	53
General Member Female	54
Safety	55
(iv) Number of Active Members and Total Annual Salaries by Sex and Attained Age	
General Members	56
Safety Members	58
(v) Summary of Monthly Allowances Being Paid	
General Members	59
Safety Members	59
(vi) Probabilities of Separation from the System	
General Member Male	60
General Member Female	62
Safety Members	64
(vii) Members' Basic Contribution Rates (Sections 31676.12 and 31664)	
General Member	66
Safety	68
(viii) Members' Cost-of-Living Contribution Rates - Partial Funding	
General Members	69
Safety	71
(ix) Members' Cost-of-Living Contribution Rates - Stronger Funding	
General Member	72
Safety	74
(x) Accounting Principles Board Opinion #8 - Pension Expense Provision	75
(xi) Accounting Balance Sheet	78
(xii) Ratio of Current Compensation to Compensation Anticipated at Age 67 for General Members and Age 60 for Safety Members	79

1/20/78

INTRODUCTION

SECTION I

1/20/78

EMPLOYEES' RETIREMENT ASSOCIATION

OF THE

COUNTY OF FRESNO

Introduction

We were requested by the County to make an actuarial investigation and valuation of the Retirement System, as well as a cost-of-living update, as of June 30, 1977, using the latest statistical information available as to the active, inactive and retired membership. We were also requested to make cost calculations in connection with possible proposed amendments to the System. In connection with these studies, we have made several additional valuations of the System to measure the possible inflationary effect on County and member costs if the assumptions as to salary scales and investment earnings were changed. As part of our study we also have included the calculation of the ratio of the assets of the System to its obligation for benefits earned to the date of the valuation.

In connection with this actuarial survey, we have carried out our assignment in such a way so as to improve the chances that when the study was completed and the report submitted, any questions on the System from the Board of Supervisors, the County Administrative Officer, the Retirement Board, the members or the auditors of the System could be answered.

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

The valuation results under the varying sets of salary scale and interest assumptions have been calculated in order to point out the effects of inflation upon the contribution requirements of the System. All of us recognize this has become more important recently as the question as to appropriate recognition of inflation in assumptions has become of interest to laymen, accountants, pension directors and other interested parties. We believe these results under varying assumptions will allow one to judge the relative impact of changed assumptions in an inflationary environment.

The ratio of the assets of the System to its obligation for benefits earned to the date of the valuation is being provided because we believe the use of this ratio is one of the best measures of the funding progress of the Plan.

We believe this additional information, which is beyond that available from past actuarial studies, will be of substantial help to all parties in our mutual effort to assure the actuarial soundness and funding adequacy of the Retirement System.

SUMMARY OF RESULTS

AND

RECOMMENDATIONS

SECTION II

EMPLOYEES' RETIREMENT ASSOCIATION

OF THE

COUNTY OF FRESNO

Summary of Results and Recommendations

Based upon the results of our analysis and valuation of the System, we recommend the following either be adopted by the System or noted for future reference, as the case may be:

- (1) Note our belief, based upon Item (6) below, that the System is currently soundly funded;
- (2) Adoption of ultimate County Basic contribution rates equal to 7.63% of salaries not over \$350 a month and 11.44% of salaries in excess of \$350 a month for General Members and 16.27% of salaries not over \$350 a month and 24.40% of salaries in excess of \$350 a month for Safety Members (Section III(i));
- (3) Adoption of revised cost-of-living contribution rates based upon the "Stronger Funding" method (Section III(ii));
- (4) Adoption of the results of the Experience Analysis (Section IV);
- (5) Adoption of revised employee (member) contribution rates based upon a non-sex related mortality table, using step rate increases over the next four years (Section III(i) and VI(vii));
- (6) Note the introduction of the funding progress ratio concept as a measure of funding progress (Section III(iii));
- (7) Consideration of more frequent actuarial valuations in order to more quickly recognize significant adverse cost trends;
- (8) Adoption of a 5-3/4% interest rate for valuation purposes, along with a salary scale reflecting merit and longevity plus 3% inflation;
- (9) Adoption of the concept of additional valuations at the time of each actuarial study under different combinations of inflation and interest assumptions (Page 23);
- (10) Consideration of possible alternative uses of "Surplus" (Page 24).

With respect to (1)-(6) and (9) and (10) on the preceding page, each of these items is discussed in more detail in the main body of the report and the discussions regarding these points may be found by referring to the Section or page number of the report, as noted in parenthesis.

Fresno County is in a strong funding position. This statement is made based upon the funding progress ratio as calculated in this valuation and upon the anticipated adoption of the recommendations in this report.

BASIC VALUATION RESULTS

SECTION III

EMPLOYEES' RETIREMENT ASSOCIATION

OF THE

COUNTY OF FRESNO

BASIC CONTRIBUTION RATES

Basic contribution requirements are broken down into two major categories: County Contribution rates and Employee contribution rates.

The County basic contribution rates which have been calculated in this valuation are somewhat lower than the present County contribution rates of 11.24% of salaries for General Members and 22.74% of salaries for Safety Members.

The most important factors tending to increase the County contribution rates were increases in the future salary scales, the reduction in the turnover rates, the increase in the disability rates of Safety members, sizable increases in the rate of early retirement for General members, and the changes in the mortality tables after service retirement to provide for longer life expectancies.

The most important factors that more than offset this increase in basic contribution rates were the higher interest earnings assumed for the future and the large increase in new active members since the time of the last study (General members increased about 20% and Safety members about 40%). For the new member, the average required County rate is less than the average needed for all the members at the time of the previous study. This is because new employees usually enter at ages younger than the average age of the members as a whole and these new members have no unfunded liabilities attached to them. Because the total "unfunded liabilities" are then able to be spread over a larger total salary base, this helps to reduce the "unfunded" portion of the County contribution, when expressed as a percentage of salaries of the total membership.

We recommend that the County contribute at the following basic rates of contribution:

<u>Percentage of Monthly Salaries</u>					
<u>General Members</u>			<u>Safety Members</u>		
<u>Aggregate</u>	<u>Not over \$350</u>	<u>In Excess of \$350</u>	<u>Aggregate</u>	<u>Not over \$350</u>	<u>In Excess of \$350</u>
10.20%	7.63%	11.44%	22.42%	16.27%	24.40%

<u>Total (General + Safety Members)</u>		
<u>Aggregate</u>	<u>Not over \$350</u>	<u>In Excess of \$350</u>
11.56%	8.61%	12.92%

The annual compensation on June 30, 1977 for the County was \$62,521,023 for General Members and \$7,846,680 for Safety Members. The following table shows the actual dollar amounts needed to be contributed by the County at the current contribution rate and at the recommended rates stated above. If the annual compensation as of June 30, 1977 were to remain unchanged for the year beginning July 1, 1977 and ending June 30, 1978, the contribution for this period would be as follows:

<u>Basic County Contribution</u> <u>(7/1/77 to 6/30/78)</u>				
<u>General Members</u>				
<u>Annual Compensation</u>	<u>At current rate</u>		<u>At recommended rate</u>	
	<u>Aggregate Rate*</u>	<u>Dollar Amount</u>	<u>Aggregate Rate**</u>	<u>Dollar Amount</u>
\$62,521,023	11.24%	\$7,027,363	10.20%	\$6,377,144

*Corresponds to split rate of 8.40% of salaries not over \$350 a month and 12.60% of salaries in excess of \$350 a month.

**Corresponds to split rate of 7.63% of salaries not over \$350 a month and 11.44% of salaries in excess of \$350 a month.

<u>Safety Members</u>				
<u>Annual Compensation</u>	<u>At current rate</u>		<u>At recommended rate</u>	
	<u>Aggregate Rate*</u>	<u>Dollar Amount</u>	<u>Aggregate Rate**</u>	<u>Dollar Amount</u>
\$7,846,680	22.74%	\$1,784,335	22.42%	\$1,759,226

*Corresponds to a split rate of 16.49% of salaries not over \$350 a month and 24.74% of salaries in excess of \$350 a month.

**Corresponds to a split rate of 16.27% of salaries not over \$350 a month and 24.40% of salaries in excess of \$350 a month.

<u>Annual Compensation</u>	<u>Total (General + Safety Members)</u>			
	<u>At current rate</u>		<u>At recommended rate</u>	
	<u>Aggregate</u>	<u>Dollar</u>	<u>Aggregate</u>	<u>Dollar</u>
	<u>Rate</u>	<u>Amount</u>	<u>Rate</u>	<u>Amount</u>
\$70,367,703	12.52%	\$8,811,698	11.56%	\$8,136,370

The Employee contribution rates for this valuation have been calculated in accordance with the provisions of the 1937 County Retirement Act which provide that rates of contribution and benefit levels are the same for members of both sexes.

These ultimate rates for employees ($\frac{1}{2}$ contribution rates) as developed are shown in the Appendix to this report (Section VI(vii)). For members not integrated with Social Security in accordance with Article 13, the applicable contribution rate should be read from the column captioned "Excess of Monthly Compensation over \$350", and applied to the total monthly salary.

It should be noted that because of the size of the increases in contribution rates for the members, we are recommending using step rate increases over the next four years. These step rate increases are discussed on page 22.

Although the 1937 County Law does not specify the particular date upon which changes in contribution rates should be made effective, we would suggest that any revision of contribution rates for the County and for the members be put into effect as soon as possible but at a date which is convenient from the administrative viewpoint.

EMPLOYEES' RETIREMENT ASSOCIATION

OF THE

COUNTY OF FRESNO

Cost-of-Living Contribution Rates

Partial Funding Method

As part of our overall assignment, we have reviewed your program for automatic adjustment of retirement allowances which results from changes in the Consumer Price Index. At the present time, the maximum change in cost-of-living allowance is 3% per year. Our cost calculations in previous cost-of-living studies have been made on a "partial funding" basis, using an estimated 10-year projection of the basic pension roll based upon a review of the experience of the last 10 years. The funding of this benefit is designed not just to cover the cost-of-living payments to be made during the next 10-year period, but also to build a reserve at the end of the 10 years sufficient to provide for payment of the then current dollar level of cost-of-living benefits over an additional 5-year period.

Based on this same method, the valuation interest rate of 5-3/4%, and an adjustment for an expected increase in future pension roll of 16% per year, we have calculated the total cost-of-living contributions on a refundable basis to members and to the County. The cost-of-living contribution rate required by the members, considered as a total group, and by the County is 1.13% of total salaries from each. The present cost-of-living rate corresponding to this is 1.00% of salaries. The detailed member cost-of-living contribution rates on the partial funding method are shown on pages 69, 70 and 71 in the Appendix.

Possible Stronger Funding Method

As indicated in the preceding discussion, the present method for funding cost-of-living benefits provides enough funds to pay for an additional 5 years of cost-of-living payments at the end of the 10-year projection period. As of April 1, 1977 many of the present retired members of the System already had accumulated more than a 20% carry-over of their cost-of-living increases, resulting from the excess of the annual cost-of-living index over the maximum adjustment permitted. For this reason we strongly recommend that consideration be given by the Retirement Board of providing a stronger basis of cost-of-living funding.

The method of stronger cost-of-living funding would be the following: Continue to make the 10-year projections described above, but provide for a reserve buildup at the end of the 10 years sufficient to continue the then dollar cost-of-living payments (but not additional increases in payments) for the lifetime of each of those on the pension roll. Based on this stronger funding method, and with the same assumptions described in the partial funding approach, the total cost-of-living contributions on a refundable basis to the members as a total group and to the County is approximately 1.91% of total salaries. The detailed member cost-of-living contribution rates on the stronger funding method are shown on pages 72, 73 and 74 in the Appendix.

In Tables A and B on pages 26 and 27, we discuss the results of the multiple valuations made using various interest and salary scale assumptions. Those tables illustrate the use of various levels of member and County cost-of-living funding. In all the cases illustrated in those

1/20/78

tables it is assumed that the members and the County share the cost-of-living contributions equally. It is also assumed that all cost-of-living contributions are on a refundable basis, to the member and to the County.

Further Discussion on Cost-of-Living Program

The Retirement Board may feel that because of the current inflation level the present retired members need more financial assistance than is being provided by the 3% cost-of-living maximum. If this is the Board's feeling, we would suggest that it would be less costly to the System as a whole to provide "one shot" type of cost-of-living increases out of "Surplus", as provided for under Section 31874.3 of the County Act, rather than to adopt a long term cost commitment on an ongoing basis resulting from an increase in the 3% maximum to a higher level of, say, 4%, 5% or 6%.

Also, because of the large increase in the required contribution rate for the Cost of Living Program, the Retirement Board may want to consider the possibility of part of the cost increase coming out of "Surplus".

As a final observation, depending upon the method of funding adopted by the Board, we suggest that consideration be given to having annual cost-of-living studies made. In this way, pace can be kept with the changes made in the total pension roll pattern.

EMPLOYEES' RETIREMENT ASSOCIATION

OF THE

COUNTY OF FRESNO

Funding Progress of the System

A comparison of the measurement of funding progress of the System in successive valuations is one of the most important criteria for determining the soundness of a pension system. There are various methods of measuring the progress of the System's funding. We believe that the most useful measure is the ratio of the System's assets to its obligation for benefits earned to date. Unless amendments have been made to the System, in any soundly funded System the assets should be increasing at a greater rate than the benefits earned to date. This will have the effect of causing an increase in the funding progress ratio in future years.

Therefore, starting now, at the time of each valuation we intend to compute the ratio of the assets of the System to its obligations for benefits earned to date. We believe that this measure, in combination with a relatively stable contribution rate, will help the Plan's administrators to more adequately monitor the progress of the funding status of the System. To this end we include on the following page this calculation based upon the adoption of our recommended assumptions.

1/20/78

EMPLOYEES' RETIREMENT ASSOCIATION

OF THE

COUNTY OF FRESNO

Funding Progress of the System

(a) Assets as of Valuation Date (6/30/77)*	\$ 82,889,468
(b) Present value of benefits earned to date assuming immediate 100% vesting	\$ 79,841,530 <i>101,565,817</i>
(c) Ratio of assets to benefits earned to date (a) - (b)	104% ** <i>82</i>

*Assets are based upon Book Value as supplied to us by the System.
Interest rate assumed is 5-3/4%.

**In calculating the funding progress of the System, we have used all
the assets including all surplus.

Usually a public retirement system being soundly funded will have a funding progress ratio somewhere between 60% and 85%. One factor playing a significant role in funding progress ratios is the rate of interest being assumed. This ratio used an interest rate of 5-3/4% (as is being recommended for the valuation). Previous employer contribution rates have been based upon interest assumptions of 5% or lower. As a result of the Retirement Board's ability to bring the earnings to higher levels, this has meant a faster build up of the Fund than was expected. This has resulted in higher funding ratios than would otherwise be the case. Another factor improving the funding progress ratio was the large percentage increases in new members.

COUNTY OF FRESNO

ACTUARIAL BALANCE SHEET

One of the purposes 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 some of the most important items which make up the Actuarial Balance Sheet.

Item #

5. The actuarial present value of the basic allowances which are currently being paid to retired members and beneficiaries on account of service, disability retirements and survivor benefits.
- 6.&7. The present value of the basic retirement allowances for anticipated future service and disability retirements to active and inactive members.
8. The present value of death benefits payable on account of the death of currently active or inactive members.
9. The present value of termination benefits payable on account of the death or withdrawal of currently active or inactive members.
- 10.&11. The reserve held for the purpose of providing future cost-of-living benefits to current and future pensioners.
12. The reserve held for future adverse experience. Sometimes used for other Retirement System purposes.

The items relating to the Asset side of the Actuarial Balance Sheet are self-explanatory.

EMPLOYEES' RETIREMENT ASSOCIATION
OF THE COUNTY OF FRESNO
ACTUARIAL BALANCE SHEET*

as of
June 30, 1977

ASSETS

1. Total assets now held (from Accounting Balance Sheet)	\$ 82,889,468
2. Present value of future contributions by members	31,986,537
3. Present value of future contributions by County on account of:	
a) Prior service and Current service	117,233,786
b) Lump sum death benefits on account of active members	<u>544,450</u>
4. Total actuarial assets	<u>\$232,654,241</u>

LIABILITIES

5. Present value of allowances already granted:	
Annuities and current service and prior service pensions	\$ 34,348,628
6. Present value of service retirement allowances to be granted:	
Annuities and current service pensions and continuance benefits including prior service pensions	156,317,815
7. Present value of disability retirement allowances to be granted:	
Annuities and current service pensions and continuance benefits including prior service pensions	17,387,475
8. Present value of death benefits to be granted:	
a) Lump sum death benefits	544,450
b) Death while eligible to retire	2,563,676
c) Duty death	1,427,991
9. Present value of members' contributions to be returned upon withdrawal or death before retirement	11,217,713
10. Reserve for future cost-of living adjustments	2,641,971
11. Members' cost-of-living contributions	2,029,045
12. Investment contingency reserve	3,993,621
13. Due to fiscal agent - Bond Trades	<u>181,856</u>
14. Total actuarial liabilities	<u>\$232,654,241</u>

*Interest rate is 5-3/4% per annum

EMPLOYEES' RETIREMENT ASSOCIATION

OF THE

COUNTY OF FRESNO

Analysis of Effect of Various Interest Rate and Salary

Scale Assumptions Upon Contribution Requirements

Purpose of Multiple Studies

In connection with this survey, we have made additional valuations of the System by varying the interest rates and the corresponding salary scales used in the studies. The purpose of doing this was to analyze the effect of these changes on the County and member contribution rates.

Procedure Used to Select Assumptions for Study

To assist in the selection of appropriate interest and salary scales to use in these studies, we had available the current salary information on the active members.

In analyzing the rate of inflation for the last 15 years in California public employee retirement plans, we have found that the average annual rate lies between 4% and 7%. The overall average is approximately 6%. Therefore, for purposes of this survey, we assumed that one of the multiple studies to be made should use the level of 6% per annum inflation. Also, because the level of inflation is currently about 6%, any valuation made using an inflation element in the salary scale other than 6% should start at 6% and grade to the ultimate long term inflation to be used.

1/20/78

We believe it is important to also illustrate the results on costs of a long term inflation in the salary scale of a lower level of, say, approximately 2% per annum. Our second study uses the present interest assumption of 5% and an appropriate salary scale having $2\frac{1}{4}\%$ inflation in it.

To round out the number of studies to be made, we will make the basic valuation using a $5-3\frac{3}{4}\%$ long term interest assumption with whatever appropriate salary scale should be used in connection with it. The fund has been earning in excess of $5-3\frac{3}{4}\%$ interest and, we believe, that long term rate is appropriate for this basic study. The use of $5-3\frac{3}{4}\%$ will help offset some of the added cost falling on the System because of the current high level of inflation. There is merit, at the same time, to crediting active member accounts at $5-1\frac{1}{4}\%$ if the difference between the two interest rates (approximately \$110,000 per year at the time of the study) works its way into helping to hold down the inflationary costs of the System.

In order to correlate the assumed rates of inflation with the corresponding appropriate investment returns in each of the studies as described above, we have used the statistical procedures set forth in a recently published University of Chicago study. This study, (Stocks, Bonds, Bills and Inflation: Simulations of the Future (1976-2000): Roger E. Ibbotson and Rex A. Sinquefeld, Journal of Business, Volume 49, No. 3, July, 1976), analyzes long term rates of investment return in relation to various levels of inflation using results actually achieved during the period 1926-1974. We believe the application of that study along with our salary analyses leads to reasonable combinations of assumptions to use in connection with the valuations to be made for the County. The specific sets of multiple studies selected are set forth in the next section.

Specific Multiple Studies Selected

To illustrate more clearly the effects of inflation on costs of the System, we have chosen to make the following studies, with the salary scale and investment assumptions as set forth:

Study #1A - A basic valuation using 5-3/4% interest along with salary scales reflecting merit, longevity and an ultimate 3% inflation. In the valuation the inflation starts at 6% and reduces at .75% per year until it reaches the level of 3% per year. The valuation uses partial funding of a 3% cost-of-living benefit.

Study #1B - Same as Study #1A except a stronger method of funding is used for cost-of-living.

Study #2A - A valuation using 5% ultimate interest (reached by decreasing the investment rate by .55% each year, starting at 5-3/4%) along with salary scales reflecting merit, longevity and an ultimate 2-1/4% inflation per year. The inflation rate would start at 6% and reduce at .75% per year until 2-1/4% is reached. The valuation uses partial funding of a 3% cost-of-living benefit.

Study #2B - Same as Study #2A except a stronger method of funding is used for cost-of-living.

Study #3 - A valuation using 8½% ultimate interest (reached by increasing the investment rate by .55% each year starting with 5-3/4%) along with salary scales reflecting merit, longevity and a 6% rate of inflation. The valuation uses full funding of a 3% cost-of-living benefit.

1/20/78

It should be noted that in each of these studies, we have assumed that the cost-of-living contributions would be shared equally by the members and the County and would be on a refundable basis for both. We have also assumed that the contribution toward cost-of-living would be made over each member's future working lifetime.

Results Obtained from the Studies

We show in Table A on page 26 for representative ages a comparison of the employee contribution rates based on the various June 30, 1977 valuations. In that Table are shown the present employee basic rates before the study was made and also the updated rates based on our various valuations. In addition, we show the cost-of-living contribution rates on a partial funding basis as well as on both a stronger funding and a full funding approach. It should also be noted that in connection with the $8\frac{1}{2}\%$ ultimate investment rate, we are assuming that if the future inflation is set at 6% the 3% cost-of-living benefit will be granted every year in the future. We, therefore, have provided for funding that part of the benefit on a full funding basis.

Table A shows a comparison of the various member rates of contribution. It should be carefully pointed out that if the $8\frac{1}{2}\%$ ultimate interest basis were used there would have to be several questions answered, some of which would probably involve changing the 1937 County Law. One of the problems has to do with what interest should be credited to the employee accounts. For example, would the full $8\frac{1}{2}\%$ interest be credited to the member accounts? Also, in connection with full funding the cost-of-living benefit, we feel considerable discussions would be needed and changes in the Law would probably have to be made. It is possible that because of the size of the cost-of-living contributions

required from the employee on the full funding basis there might need to be some refundability after retirement as well as before retirement. Also, the period over which the County could fund the cost-of-living benefit might very well be changed to a longer period than that required for the members.

In Table B on page 27, we compare the required County contribution rates based on the various sets of assumptions we have used in the studies. The County rates in this Table are shown both as percentages of salary and as annual contributions, based on the total annual salaries at the time of the valuation.

Recommendations

We recommend the Retirement Board adopt the employee and County contribution rates resulting from Study #1B. This includes the stronger funding method for cost-of-living and the 5-3/4% interest assumption along with a salary scale reflecting merit and longevity and 3% inflation. You will note that under the Study #1B the resulting total County contribution rate (basic plus cost-of-living) falls well within the range of those contributions required under Studies #2B or #3.

To make this contribution change in one step would mean an average increase in employee contribution rate of about 40% or 50%. For the County, the total contributions required by Study #1 B are approximately the same as the present contributions being made. Because of these large increases in employee contribution rates, if taken as one step, we recommend for the Board's consideration the use of step rate increases over the next four years.

We show on the following page the resulting County and member contribution rates (for representative ages) if the four year step rate increases are adopted. Because the County matches members' cost of

living contributions, those County contribution increases are spread over four years also. Because the higher contribution level is being reached gradually, the ultimate contribution rate required would have to be somewhat higher than those shown for Study #1B.

<u>Year</u>	<u>County Rates a/c General Members</u>			<u>Total Annual Contributions</u>
	<u>% of Salaries</u>			
	<u>Basic</u>	<u>C.O.L.</u>	<u>Total</u>	
Now	11.24%	1.00%	12.24%	\$7,652,573
1	10.20	1.27	11.47	7,171,161
2	10.20	1.55	11.75	7,346,220
3	10.20	1.82	12.02	7,515,027
4 & over	10.20	2.10	12.30	7,690,086
Study #1B	10.20%	1.91%	12.11	\$7,571,296

*Based on total annual salaries at valuation date of \$62,521,023.

<u>Year</u>	<u>County Rates a/c Safety Members</u>			<u>Total Annual Contributions</u>
	<u>% of Salaries</u>			
	<u>Basic</u>	<u>C.O.L.</u>	<u>Total</u>	
Now	22.74%	1.00%	23.74%	\$1,862,802
1	22.42	1.27	23.69	1,858,878
2	22.42	1.55	23.97	1,880,849
3	22.42	1.82	24.24	1,902,035
4 & over	22.42	2.10	24.52	1,924,006
Study #1B	22.42%	1.91%	24.33%	\$1,909,097

**Based on total annual salaries at valuation date of \$7,846,680.

We also show below as a percentage of salaries in excess of \$350 per month the corresponding employee contribution rates (total of basic and cost-of-living) for representative ages:

<u>Year</u>	<u>General Entry Age</u>				<u>Safety Entry Age</u>	
	<u>25</u>	<u>35</u>	<u>45</u>	<u>21</u>	<u>25</u>	<u>30</u>
Now	4.13%	4.98%	6.13%	5.40%	5.82%	6.42%
1	4.81	5.52	6.49	6.05	6.40	6.90
2	5.49	6.06	6.85	6.70	6.98	7.37
3	6.18	6.60	7.22	7.36	7.56	7.85
4 & over	6.86	7.14	7.58	8.01	8.14	8.33
<u>Study #1B</u>	6.39%	6.77%	7.33%	7.56%	7.74%	8.00%

Because of the value to the Board of having multiple valuation results as shown in Tables A and B, we recommend at the time of each

actuarial study that multiple valuations be made. This will introduce different combinations of inflation and interest earnings so comparisons can be made with the current valuation results to be sure they are well within the range of contribution rates that would be required based upon alternative assumptions. We feel in this way the funding of the Retirement Program in Fresno County can continue to be maintained on a sound basis into the future.

Further Important Points

Under the present provisions of the 1937 Act, the excess earnings above those credited to all the accounts automatically flow into the Contingency Reserve or "Surplus Account" and, unless otherwise directed, will not be available to help control inflationary costs. We believe that as long as inflation continues at its recent high level, some effort should be made by each of the County Systems to either restrict the amounts of future increases in surplus or to amend the Retirement Act itself to provide for the use of part of these excess earnings to help control costs during highly inflationary periods.

We feel that the Retirement Act is currently quite specific in setting forth the permissible uses of this "surplus". One percent of the assets of the Fund must be held as a Contingency Fund. The balance may be used to pay for additional benefits to the members. Some of these uses by the Counties have been for: insurance premiums, lump sum benefits after retirement, paying part or all of the cost-of-living contributions and assisting in the funding when the basic benefit level has been increased.

We believe that all "surplus" currently in the Fund falls under the present provisions of the 1937 County Act. It might be possible, however,

in connection with future surplus to change the 1937 Act or to change how the Board operates under the present Act as to the amounts of investment earnings credited to all accounts.

We feel that unless some definite steps are taken by both the members and the County to help control these pension costs as they develop, the future soundness of the Retirement System under conditions of persistently high inflation may be in jeopardy.

Several approaches come to mind that may be helpful in dealing with inflation in the future: 1. Crediting all accounts with substantially all of the excess interest earnings.

2. The possible use of two different "surplus" accounts, one for the members and one for the County.

3. Possibly fixing the member contribution rate level.

After discussion of these matters with the Retirement Board, we feel that other possible solutions or partial solutions will likely emerge. On the valuation date the "surplus", in excess of 1% of assets, because of past years' activities, was approximately \$3,200,000. This is to point out the relative size of the item we are talking about possibly using in a different way in the future.

In this report, we have pointed out for comparison purposes some of the corresponding costs if alternative methods are used in treating inflation. In addition, we have included a new funding test (funding progress ratio), proposed a modification in the cost-of-living funding and suggested consideration by the Board of possible modifications in the use of "surplus". We look forward to meeting with the Board and discussing these various topics.

COUNTY OF FRESNO

COMPARISON OF EMPLOYEE CONTRIBUTION RATES BASED ON 6/30/77 VALUATION
 (using percentage of monthly salary in excess of \$350)

Present Rates (before Study)

Present - Partial funding 3% C.O.L.; 5% interest; merit, longevity + $\frac{1}{2}\%$ inflation

General				Safety			
Entry Age	Basic	C.O.L.	Total	Entry Age	Basic	C.O.L.	Total
25	2.99%	1.14%	4.13%	21	3.91%	1.49%	5.40%
35	3.61	1.37	4.98	25	4.22	1.60	5.82
45	4.44	1.69	6.13	30	4.65	1.77	6.42

Rates Updated by 6/30/77 Valuation

Study #1A - Partial funding 3% C.O.L.; 5- $\frac{3}{4}\%$ interest; merit, longevity + 3% inflation

General				Safety			
Entry Age	Basic	C.O.L.	Total	Entry Age	Basic	C.O.L.	Total
25	4.38%	1.19%	5.57%	21	5.18%	1.41%	6.59%
35	4.64	1.26	5.90	25	5.30	1.44	6.74
45	5.02	1.36	6.38	30	5.48	1.49	6.97

✓ Study #1B - Stronger funding 3% C.O.L.; 5- $\frac{3}{4}\%$ interest; merit, longevity + 3% inflation

General				Safety			
Entry Age	Basic	C.O.L.	Total	Entry Age	Basic	C.O.L.	Total
25	4.38%	2.01%	6.39%	21	5.18%	2.38%	7.56%
35	4.64	2.13	6.77	25	5.30	2.44	7.74
45	5.02	2.31	7.33	30	5.48	2.52	8.00

Handwritten notes: 5.3/4, 6.01, 6.49, 7.14, 5.3/4, 7.19, 7.41, 7.73

Study #2A - Partial funding 3% C.O.L.; 5% interest; merit, longevity + $2\frac{1}{4}\%$ inflation

General				Safety			
Entry Age	Basic	C.O.L.	Total	Entry Age	Basic	C.O.L.	Total
25	4.27%	1.20%	5.47%	21	5.20%	1.47%	6.67%
35	4.66	1.31	5.97	25	5.37	1.51	6.88
45	5.17	1.46	6.63	30	5.63	1.59	7.22

Study #2B - Stronger funding 3% C.O.L.; 5% interest; merit, longevity + $2\frac{1}{4}\%$ inflation

General				Safety			
Entry Age	Basic	C.O.L.	Total	Entry Age	Basic	C.O.L.	Total
25	4.27%	2.03%	6.30%	21	5.20%	2.47%	7.67%
35	4.66	2.21	6.87	25	5.37	2.55	7.92
45	5.17	2.45	7.62	30	5.63	2.67	8.30

Study #3 - Full funding 3% C.O.L.; $8\frac{1}{2}\%$ ult. interest; merit, longevity + 6% inflation

General				Safety			
Entry Age	Basic	C.O.L.	Total	Entry Age	Basic	C.O.L.	Total
25	3.37%	5.26%	8.63%	21	3.89%	6.07%	9.96%
35	3.61	5.63	9.24	25	3.99	6.22	10.21
45	3.94	6.14	10.08	30	4.15	6.47	10.62

TABLE B

COUNTY OF FRESNO
COMPARISON OF EMPLOYER CONTRIBUTION RATES BASED ON 6/30/77 VALUATION

Present Rates (before Study)				
Present - Partial funding 3% C.O.L.; 5% interest; merit, longevity + ½% inflation				
	General Members		Safety Members	
	% of Salary	Annual Contributions*	% of Salary	Annual Contributions*
Basic	11.24%	\$7,027,363	22.74%	\$1,784,335
Cost-of-Living	1.00	625,210	1.00	78,467
Total	12.24%	\$7,652,573	23.74%	\$1,862,802

Total (General & Safety Members)	
% of Salary	Annual Contributions*
Basic	12.52%
Cost-of-Living	1.00
Total	13.52%

Rates Updated by 6/30/77 Valuation				
Study #1A - Partial funding 3% C.O.L.; 5-3/4% interest; merit, longevity + 3% inflation				
	General Members		Safety Members	
	% of Salary	Annual Contributions*	% of Salary	Annual Contributions*
Basic	10.20%	\$6,377,144	22.42%	\$1,759,226
Cost-of-Living	1.13	706,488	1.13	88,667
Total	11.33%	\$7,083,632	23.55%	\$1,847,893

Total (General & Safety Members)	
% of Salary	Annual Contributions*
Basic	11.56%
Cost-of-Living	1.13
Total	12.69%

Study #1B - Stronger funding 3% C.O.L.; 5-3/4% interest; merit, longevity + 3% inflation				
	General Members		Safety Members	
	% of Salary	Annual Contributions*	% of Salary	Annual Contributions*
Basic	10.20%	\$6,377,144	22.42%	\$1,759,226
Cost-of-Living	1.91	1,194,152	1.91	149,872
Total	12.11%	\$7,571,296	24.33%	\$1,909,098

Total (General & Safety Members)	
% of Salary	Annual Contributions*
Basic	11.56%
Cost-of-Living	1.91
Total	13.47%

*Based on total annual salaries at valuation date: General Members \$62,521,023
 Safety Members 7,846,680

TABLE B
(continued)

Study #2A - Partial funding 3% C.O.L.; 5% interest; merit, longevity + 2-1/4% inflation				
	General Members		Safety Members	
	% of Salary	Annual Contributions*	% of Salary	Annual Contributions*
Basic	11.65%	\$7,283,699	25.31%	\$1,985,995
Cost-of-Living	1.17	731,496	1.17	91,806
Total	12.82%	\$8,015,195	26.48%	\$2,077,801

Total (General & Safety Members)		
	% of Salary	Annual Contributions*
Basic	13.17%	\$ 9,269,694
Cost-of-Living	1.17	823,302
Total	14.34%	\$10,092,996

Study #2B - Stronger funding 3% C.O.L.; 5% interest; merit, longevity + 2-1/4% inflation				
	General Members		Safety Members	
	% of Salary	Annual Contributions*	% of Salary	Annual Contributions*
Basic	11.65%	\$7,283,699	25.31%	\$1,985,995
Cost-of-Living	1.97	1,231,664	1.97	154,580
Total	13.62%	\$8,515,363	27.28%	\$2,140,575

Total (General & Safety Members)		
	% of Salary	Annual Contributions*
Basic	13.17%	\$ 9,269,694
Cost-of-Living	1.97	1,386,244
Total	15.14%	\$10,655,938

Study #3 - Full funding 3% C.O.L.; 8½% ult. interest; merit, longevity + 6% inflation				
	General Members		Safety Members	
	% of Salary	Annual Contributions*	% of Salary	Annual Contributions*
Basic	8.31%	\$5,195,497	17.23%	\$1,351,983
Cost-of-Living	4.82	3,013,513	4.82	378,210
Total	13.13%	\$8,209,010	22.05%	\$1,730,193

Total (General & Safety Members)		
	% of Salary	Annual Contributions*
Basic	9.30%	\$6,547,480
Cost-of-Living	4.82	3,391,723
Total	14.12%	\$9,939,203

*Based on total annual salaries at valuation date:

General Members	\$62,521,023
Safety Members	\$ 7,846,680

EXPERIENCE ANALYSIS

SECTION IV

EMPLOYEES' RETIREMENT ASSOCIATION

OF THE

COUNTY OF FRESNO

Experience Analysis

Summary of Results

A. PROBABILITIES OF SEPARATION FROM SERVICE PRIOR TO RETIREMENT:

A study was made, based upon each member's sex and attained age as of the valuation date, to determine the probability of members leaving the System because of withdrawal, death, disability retirement, service retirement and vesting.

The probabilities of each of these were all developed by sex and attained age to reflect the actual experience that took place during the investigation period. We compared the probabilities of separation used in the previous valuation with those developed for the current study and made any necessary adjustments. The assumptions made in regard to these rates are discussed in the following paragraphs.

(i) Withdrawal

In the active investigation of the System, it was found that the actual number of non-vested withdrawals from the System for the General members was down slightly from that expected and for the Safety members was about 20% less. Accordingly, the rates of withdrawal for the members were reduced to reflect this experience. This change has the result of increasing County costs slightly.

(ii) Service Retirement

The investigation of the System's experience indicates a significant trend toward earlier retirement for both General member groups. For the Safety members there was a tendency to delay retirement slightly. We, therefore, have reflected these results in the revised recommended rates of service retirement. The net effect of these changes is to cause some increase in cost of the System.

(iii) Disability Retirement

During the investigation period, actual ordinary (non-service connected) disability retirements required no changes to be made for any of the groups.

Duty disability rates of retirement for the General member groups required no change in the rates. However, for the Safety members, the rates had to be increased about 50% over the previous study.

(iv) Death Before Retirement

As a result of the experience analysis of the System, no changes were required for the female General members or for the Safety members. For male General members the total rates of death were rearranged to provide for slightly more "death while eligible to retire" cases.

(v) Deferred Retirement

The experience analysis again showed no need for probabilities of vested withdrawal or reciprocities for the Safety group. However, these probabilities have been included in this study for the General members to reflect their expected incidence of vested withdrawals and reciprocities. Large increases were required in the General member rates, both males and females.

B. POST RETIREMENT MORTALITY:

(i) Mortality after Service Retirement

At the time of the last full actuarial study of the Retirement System, we recommended the 1951 Group Annuity Mortality Table with ages set back 1 year for both males and females be used as the basis for mortality after service retirement.

During the investigation period prior to the valuation date 54 members retired for service or beneficiaries died. Based upon the 1951 Group Annuity Mortality Table set back 1 year, 76 deaths were expected. Because the anticipated number of deaths after service retirement was much higher than the number that actually occurred, especially for the females, we have recommended a change to the 1971 Group Annuity Table without any age setback for both males and females. This new table provides for longer life expectancies than the previous table, especially for the females.

(ii) Mortality after Disability Retirement

At the time of the last actuarial study, we recommended that the 1973 Disability Mortality Table be used to measure mortality after disability for both males and females. This table is being used by many governmental retirement systems as a basis of predicting life expectancy of members who have retired for disability.

During the investigation period studied, 18 disabled persons died as compared to 16 expected deaths. Based upon the results of this study, we recommend continuing the use of the 1973 Disability Mortality Table.

C. MORTALITY BASIS FOR EMPLOYEE CONTRIBUTION RATES:

In accordance with the 1937 County Retirement Act, we have calculated contribution rates which are based upon a sex independent basis under benefit Section 31676.12. The resulting Mortality Table was the 1971 Group Annuity Mortality Table (Male) set back 3 years. This table represents the average mortality for the General member group as a whole and is in our opinion a fair and adequate sex independent mortality table.

The Safety group required no adjustment since that table is already on a sex independent basis.

D. SALARY SCALES:

The term Salary Scales refers to a schedule of percentage increases by attained age which is used in projecting salaries at future points in time. These projected salaries are in turn used for estimating the amount of pension payable at retirement and for estimating the projected liability on account of other decrements (for example, disability, death, withdrawal).

For all of the valuations we have made, we have used various salary scales, making sure that these scales were consistent with the corresponding interest assumptions also used. The combinations of salary scales and interest assumptions used in these studies are described and discussed in Section III(v).

E. EXPERIENCE ANALYSIS SCHEDULE:

The probabilities of decrement as developed for this study and discussed above are listed for your convenience in the Appendix to this report in Section VI(vi).

PROPOSED AMENDMENTS TO THE SYSTEM

SECTION V

SECTION V
PROPOSED CHANGES

We were further asked to determine the costs involved if the following proposed changes were made in the County Retirement System:

1. An increase in the 50% maximum allowance for service connected disability to 60%, 70%, 80% or 90% of salaries as provided by Section 31727.5.
2. Increase the Safety membership group by the adoption of Section 31558.2.
3. Adoption by the County of Sections 31789 and 31790, which provides for a \$750 lump sum benefit on the death of an active or retired member.
4. An increase in the 3% maximum Cost of Living provision.
5. Grant an additional one time Cost of Living increase as provided by Section 31874.1.
6. Grant a flat percentage increase to retired members using Article 16.6 of the County Law.
7. Permit the purchase of credit for public service or military service.

Proposal #1 - Increase the Maximum Service-Connected Disability Benefit

Section 31727.5 of the County Law permits the Board of Supervisors to increase the maximum annual allowance payable to a member on service-connected disability from 50% to 60%, 70%, 80% or 90% of the member's final compensation. The member must be "totally disabled", meaning inability to perform substantial employment. The presumptions contained in Section 4662 of the Labor Code shall also be applied to the determination of total disability.

<u>Maximum Percentage</u>	<u>Increase in County Contribution Rate (% of Salaries)</u>	
	<u>General Members</u>	<u>Safety Members</u>
60%	.03%	.41%
70%	.05	.82
80%	.08	1.23
90%	.10	1.64

<u>Maximum Percentage</u>	<u>Increase in County Annual Contributions*</u>	
	<u>General Members</u>	<u>Safety Members</u>
60%	\$18,756	\$ 32,171
70%	31,261	64,343
80%	50,017	96,514
90%	62,521	128,686

* Based on annual salaries of: General = \$62,521,023 ; Safety= \$7,846,680

Proposal #2 - Increase in Safety Membership Group

Section 31558.2 of the County Law provides that each person over age 35 who, prior to the effective date of the section was employed in positions the principal duties of which consist of active law enforcement for not less than 10 years and who is employed by a county in a position that would make him eligible to become a safety member if he had not been over age 35 at the time of employment, may become a safety member as of the first of the month after entry into county service regardless of age. The member must go back and make up any shortage of contributions that he made, including interest.

We were told 11 persons would be eligible to elect to become Safety members if this provision is adopted. The increase in cost to the County would be .23% of Safety member salaries or \$ 18,047 per year, based on salaries as of June 30, 1977.

Proposal #3 - Adoption of Section 31789 and 31790

Section 31789 provides a death benefit of \$750 upon the death of any member after retirement and while receiving a retirement allowance from the System. Section 31790 provides a death benefit of \$750 upon the death of a member before retirement, with at least 10 years of credited service.

These provisions would not affect the employees' rates of contribution. Our current valuation indicates the County's contributions would increase by the following amounts.

	<u>Safety Members</u>			<u>General Members</u>		
	<u>1st \$350</u>	<u>Excess</u>	<u>Aggregate</u>	<u>1st \$350</u>	<u>Excess</u>	<u>Aggregate</u>
Section 31789	.03%	.04%	.04%	.07%	.11%	.10%
Section 31790	<u>.01</u>	<u>.02</u>	<u>.02</u>	<u>.01</u>	<u>.02</u>	<u>.02</u>
Total	.04%	.06%	.06%	.08%	.13%	.12%
Annual Contributions*	-	-	\$4,708	-	-	\$75,025

*Based on total annual salaries of \$ 7,846,680 for Safety members and \$ 62,521,023 for General members.

Proposal #4 - Increase in Maximum Cost of Living

We were requested to study the effect on costs if the maximum cost of living increase to retired members is changed from the present level of 3% to 4%, 5% or 6% as permitted under Section 31874.2 of the County Law.

When Fresno County first adopted its 3% cost of living program, our report on costs went into detail as to the methods and assumptions we are using in determining these costs. Because the County now is contemplating a possible increase in this cost of living level, we feel we should again bring to the attention of the Retirement Board certain general information in regard to the cost of living program.

For retirement age 65, the cost of a 1% cost of living program, if the 1% increase is paid every year, is approximately equivalent to the cost of raising the level lifetime benefit by 10%. Accordingly, if the cost of living changes in the future were large enough every year so that the retired member received 3%, 4%, 5% or 6% increases, this would be the equivalent costwise of providing approximately a 30%, 40%, 50% or 60% increase in the lifetime basic benefit level. Examples of this are shown below using an initial \$400 per month level lifetime retirement allowance:

<u>Maximum Cost of Living Percentage</u>	<u>Approximate Equivalent Level Lifetime Monthly Allowance</u>
0%	\$ 400.00
3%	520.00
4%	560.00
5%	600.00
6%	640.00

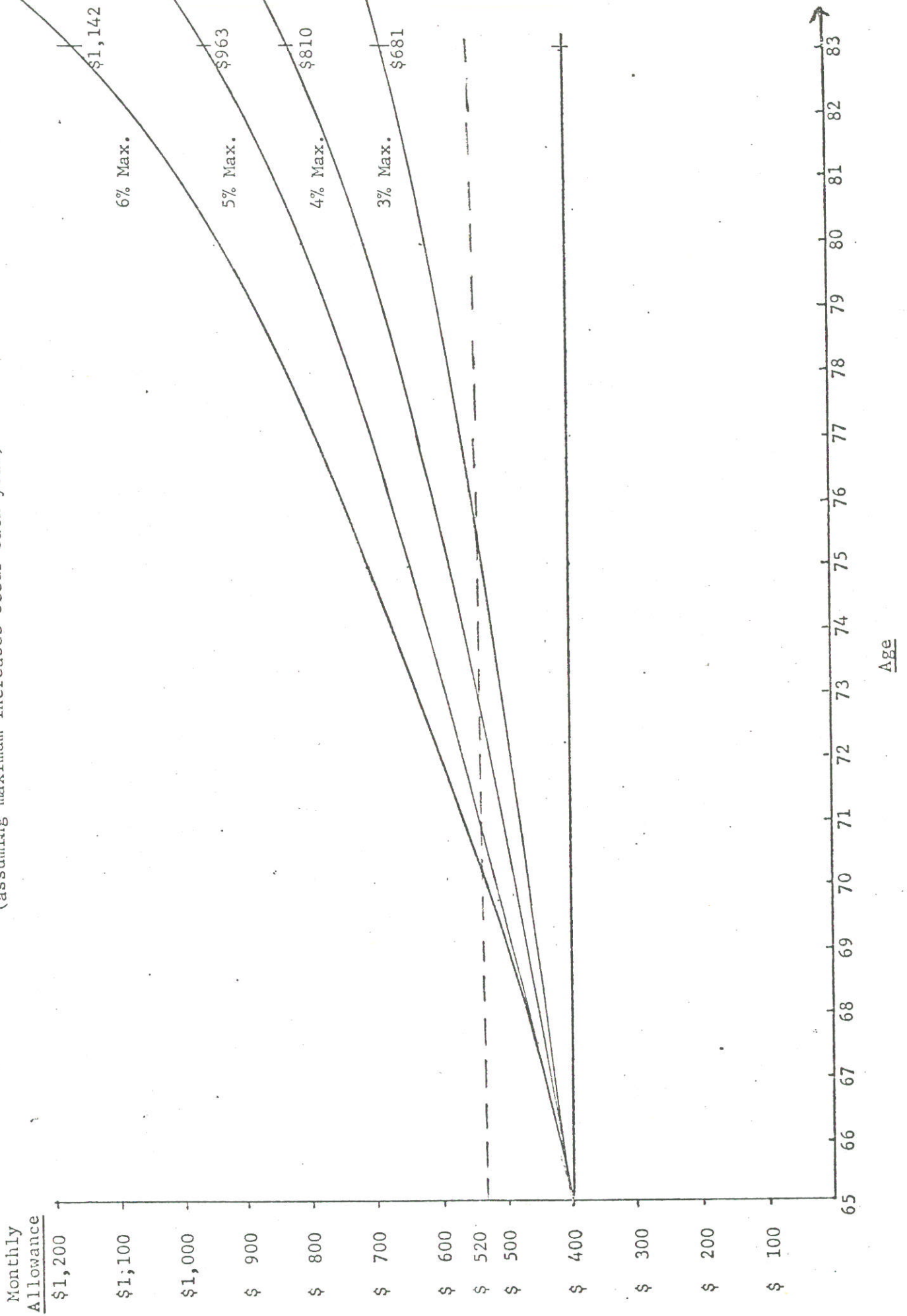
On page 41 we show a graph indicating for each year the approximate effect on the size of a \$400 monthly allowance of a member retiring at age 65, assuming a 3%, 4%, 5% or 6% maximum cost of living benefit. It should be noted that these amounts shown assume that the maximum level would be paid each year. Whether it is, of course, would depend on whether or not the C. P. I. increase each year is large enough. We feel that if the cost of living does go up enough to require the 4%, 5% or 6% increases each year, the investment earnings in the future will likely also climb to an extent as to help pay for these larger cost of living benefits. If the higher cost of living payments do materialize each year, it should also be kept in mind that the dollars of contributions needed each year for cost of living are dollars of less value than today's dollar.

The cost of living contributions required by the County and the members for the 3% maximum cost of living level is 45.95% of the member's normal contributions as discussed in Section III(ii), using the stronger funding basis. This is a County contribution rate equivalent to approximately 1.91% of total salaries. We show below the corresponding costs of a 3%, 4%, 5% and 6% maximum annual cost of living change, assuming the stronger funding of the cost of living program.

Cost of Living Contribution Rates of Members (on excess over \$350 per month)									
General Members					Safety Members				
Age	3%	4%	5%	6%	Age	3%	4%	5%	6%
20	1.99%	2.35%	2.59%	2.79%	21	2.38%	2.80%	3.09%	3.33%
25	2.01	2.37	2.61	2.81	25	2.44	2.87	3.16	3.40
30	2.06	2.43	2.67	2.88	30	2.52	2.97	3.27	3.52
35	2.13	2.51	2.77	2.98	35	2.61	3.08	3.40	3.66
40	2.21	2.61	2.88	3.10					
45	2.31	2.72	3.00	3.22					
50	2.40	2.83	3.11	3.35					
55	2.50	2.94	3.25	3.49					

County Contributions Required for Cost of Living Percentage of Total Salaries	
Maximum	
3%	1.91%
4%	2.25
5%	2.48
6%	2.67

EFFECT OF COST OF LIVING ADJUSTMENT
(assuming maximum increases occur each year)



Proposal #5 - Grant an Additional One Time Cost of Living Increase

Section 31874.1 of the County Law provides that whenever the percentage of annual increase in the cost of living as of January 1st of each year as shown by the Bureau of Labor Statistics Consumers Price Index exceeds 3%, all or part of such excess over 3% shall be granted to the members and beneficiaries on the pension roll. This increase, if granted, is a one time increase but it will run for the life of the retired member or beneficiary.

The Consumer Price Index as of January 1, 1977 showed that the annual increase for 1976 had been $5\frac{1}{2}\%$. The excess over 3% would therefore be $2\frac{1}{2}\%$. The cost to the County of increasing all retired members and beneficiaries on the roll as of June 30, 1977 by $2\frac{1}{2}\%$ would be .06% of total salaries or \$ 42,221 per year, based on salaries on June 30, 1976 of \$70,367,703 .

Proposal #6 - Grant a Flat Percentage Increase to Retired Members

Section 31879.1 of Article 16.6 of the County Law states that any accumulated increases in excess of 3% per year which are accumulated and paid under this article shall apply to the computation of future allowance adjustments as provided in Article 16.5 (your regular 3% cost of living program). Any allowance that is increased shall be subject to future increase or decrease as provided in Article 16.5.

Based on the above, if allowances of all retired members and beneficiaries on the pension roll June 30, 1977 are increased 1%, the cost to the County would be .02 % of salaries or \$ 14,074 per year, based on annual salaries as of June 30, 1977 of \$70,367,703. Any multiple of 1% would result in the same multiple being applied to the above stated cost. This increase, if granted, would be a one time increase but it would run for the lifetime of the retired member or beneficiary. Any percentage increase granted under Article 16.6 would reduce the "accumulated but not yet used" percentages in Article 16.5 by a corresponding amount.

Proposal #7 - Purchase of Credit for Public Service or Military Service

We were also asked to study the effect on costs if the purchase of credit for public service or military service is permitted in the County.

For purposes of our study we were provided with certain information on each individual who would be eligible to purchase either public service or military service credit from the County. This information included the following: classification (general or safety), sex, date of birth, current salary, years of public service or military service to be purchased and the member's rate of contribution and salary at the time he entered the Fresno County Retirement System. Our cost determination assumed that members would contribute toward the public service or military service credit in accordance with Section 31641.2 of the County Law.

There are approximately 1155 members who are contemplating the purchase of Public Service Credit or Military Service Credit under the System.

Based upon the present Retirement System (Section 31676.12 and Section 31664), we show below a brief summary of the effect on County costs of this purchase of Public Service Credit and Military Service Credit.

	<u>Safety</u>	<u>General Members</u>
Estimated liability resulting from the purchase	\$2,394,665	\$7,549,961
Estimated total contributions to be made by members to obtain this credit	878,374	4,396,896
Net liability falling on the County	1,516,291	3,153,065

If the above liabilities are assumed by the County, its contribution rates would be increased as follows:

	<u>Safety Members</u>			<u>General Members</u>		
	<u>Not Over</u>	<u>Excess</u>		<u>Not Over</u>	<u>Excess</u>	
	<u>\$350</u>	<u>Salary</u>	<u>Aggregate</u>	<u>\$350</u>	<u>Salary</u>	<u>Aggregate</u>
Additional Contribution rate	.64%	.96%	.88%	.17%	.26%	.23%
Additional Annual Contribution*	-	-	\$69,051	-	-	\$143,798

*Based on annual salaries as of June 30, 1977 of:

General Members	\$62,521,023
Safety Members	7,846,680

APPENDIX

SECTION VI

COUNTY OF FRESNO

MAJOR PLAN PROVISIONS
OF THE PRESENT SYSTEM

Benefit Sections 31676.12 and 31664
of the '37 County Act
(Integrated)

Briefly summarized below are the major provisions of the County Employees Retirement Law of 1937, as amended through June 30, 1977, and as adopted by Fresno County.

1. Membership

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

2. Return of Contributions

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

3. 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 his final year's average salary, but not to exceed six (6) month's salary.

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

If a member dies in the performance of duty, his spouse receives 50% of the member's final average salary.

1/20/78

After Retirement

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

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

4. 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 this same percentage of final average salary for the years which would be creditable to age 62 (age 55 for safety members), but the total benefit in this case would 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.

5. Service Retirement Benefit

General Members

Members with 10 years of service, who have attained the age of 50, are eligible to retire. Members with 30 years of service, regardless of age, are eligible to retire. Retirement is compulsory on the first day of the month following that in which a member reaches the age of 67.

(The recent passage of A.B. #568 would seem to eliminate this compulsory retirement age.)

1/20/78

Safety Members

Members with 10 years of service, who have attained the age of 50, are eligible to retire, Members with 20 years of service, regardless of age, are eligible to retire. Retirement is compulsory on the first day of the month following that in which a member reaches the age of 60.

Benefit

The 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 same percentage times the first \$350 of monthly final average salary per year of service after January 1, 1956.

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

6. Basic Contributions

Member

Rates are based on the age nearest birthday at entry into the System. The rates are such as will provide an average annuity at age 60 of 1/200 of final average salary for General Members, and at age 50 of 1/200 of final average salary for Safety Members. For members integrated with Social Security, the above contributions are reduced by 1/3 of that portion of such contribution payable with respect to the first \$350 of monthly salary.

1/20/78

County

The County rate is the percentage of salary necessary, upon an actuarial basis, to provide for payment of the portion of the benefits promised but not paid for by the members' contributions. These rates are changed in accordance with each actuarial study.

7. Cost-of-Living

Member

A portion of the contributions for retirement withheld from compensation is for cost-of-living adjustments after retirement. These contributions are refundable if the employee terminates from the System. The current maximum increase in retirement allowance is 3% a year based on the Cost-of-Living Index for the year ending December 31st.

County

The County is contributing a amount which matches what the member has contributed. Its contributions are also on a refundable basis.

1/20/78

EMPLOYEES' RETIREMENT ASSOCIATIONOF THECOUNTY OF FRESNOSummary of Assumptions of Basic Study and Funding MethodA. Assumptions

- | | | |
|------|--|---|
| I. | Valuation Interest Rate: | 5-3/4% |
| | Interest rate credited to member's account: | 5-1/4% |
| II. | Mortality: | |
| | (a) Post Retirement Males: | 1971 Group Annuity Mortality Table (Male) |
| | Females: | 1971 Group Annuity Mortality Table (Female) |
| | (b) Pre-Retirement: | Based upon the Experience Analysis |
| | (c) Disability: | 1973 Disability Mortality Table |
| | (d) Post Retirement Mortality for Employee Contribution Rate Purposes: | 1971 Group Annuity Mortality Table set back 3 years (Male) |
| III. | Withdrawal Rates: | Based upon the Experience Analysis |
| IV. | Disability Rates: | Based upon the Experience Analysis |
| V. | Salary Scales: | Reflecting merit and longevity plus (ult.) 3% inflation. Inflation graded from 6% to 3% over 4 years. |
| VI. | Service Retirement Rates: | Based upon the Experience Analysis |
| VII. | Assets: | Valued at Cost |

1/20/78

EMPLOYEES' RETIREMENT ASSOCIATION

OF THE

COUNTY OF FRESNO

Summary of Assumptions of Basic Study and Funding Method
(continued)

B. Cost of Living Assumptions:

I. Partial Funding Method:

(a)	Interest Rate	5-3/4%
(b)	Maximum Year Cost of Living Increase	3%
(c)	Annual Basic Pension Roll Increase	16%
(d)	Annual Increase in <u>Total</u> Salaries	6%
(e)	Mortality	Based on the average expected mortality for the retired group as a whole

II. Stronger Funding Method:

Assumptions are the same as under the Partial Funding Method except that the interest has been adjusted to reflect the expected rise in interest rates.

C. Funding Method:

Attained Age Normal with a Supplemental Present Value. The amortization period for the Supplemental Present Value is 30 years.

FRESNO COUNTY
TOTAL ANNUAL SALARY AND
MEMBERSHIP DISTRIBUTION OF
ACTIVE GENERAL MEMBERS *MALE*
AS OF JUNE 30, 1977

<u>MALE</u>		YEARS OF SERVICE							
PRESENT AGE	0-4	5-9	10-14	15-19	20-24	25-29	OVER 30	TOTAL	
19 & BELOW	2 13,652							2 13,652	
20-24	138 1,308,911	1 15,263						139 1,324,174	
25-29	366 4,697,132	47 644,182	1 13,707					414 5,355,021	
30-34	285 4,212,314	164 2,648,009	14 249,012	1 16,383				464 7,125,718	
35-39	113 1,864,988	83 1,407,721	51 919,522	11 207,021	1 10,649			259 4,409,901	
40-44	69 1,093,558	52 883,021	49 874,515	44 812,844	10 172,807			224 3,836,747	
45-49	52 767,771	53 931,832	31 556,956	35 646,863	34 631,790	12 226,761		217 3,761,973	
50-54	22 385,618	40 651,178	28 488,701	23 446,871	27 455,978	28 512,046	2 46,062	170 2,986,454	
55-59	25 392,475	26 408,357	26 466,992	24 409,779	12 205,709	29 554,329	6 100,916	148 2,538,557	
60-64	4 72,738	19 265,018	10 174,225	13 204,290	7 95,291	10 172,875	2 27,250	65 1,011,687	
65-69	2 45,844	8 140,330	2 21,079	1 19,850			1 43,359	14 270,462	
70 & OVER					1 37,489			1 37,489	
TOTAL	1,078 14,855,001	493 7,994,911	212 3,764,709	152 2,763,901	92 1,609,713	79 1,466,011	11 217,587	2,117 32,671,833	
AVERAGE ATTAINED AGE			38.52						
AVERAGE LENGTH OF SERVICE			7.45						
AVERAGE ENTRY AGE			31.07						

FRESNO COUNTY
TOTAL ANNUAL SALARY AND
MEMBERSHIP DISTRIBUTION OF
ACTIVE ~~SALARY~~ MEMBERS *F*
AS OF JUNE 30, 1977

YEARS OF SERVICE

PRESENT AGE	0-4	5-9	10-14	15-19	20-24	25-29	OVER 30	TOTAL
19 & BELOW	26 185,698							26 185,698
20-24	407 3,654,451	10 94,143						417 3,749,594
25-29	515 5,458,259	110 1,261,802	5 61,543					630 6,781,604
30-34	240 2,719,096	110 1,456,211	38 478,884					388 4,654,191
35-39	147 1,488,995	61 760,283	29 406,586	19 222,963	2 20,669			258 2,899,496
40-44	105 1,081,986	67 829,143	31 401,597	8 120,466	11 142,392			222 2,575,584
45-49	107 1,080,357	72 882,472	40 478,939	10 121,968	11 129,232	4 52,315		244 2,745,283
50-54	71 773,616	72 877,695	39 499,446	23 281,669	26 325,381	10 148,835		241 2,906,642
55-59	40 417,291	41 458,898	41 508,924	33 434,312	26 323,145	12 163,361	3 45,352	196 2,351,283
60-64	9 103,887	21 228,070	20 224,494	15 184,193	9 112,849	6 80,574	1 10,840	81 944,907
65-69	1 7,263		2 18,512	2 19,631		1 9,502		6 54,908
70 & OVER								
TOTAL	1,668 16,971,899	564 6,848,717	245 3,078,925	110 1,385,202	85 1,053,668	33 454,587	4 56,192	2,709 29,849,190
AVERAGE ATTAINED AGE			36.87					
AVERAGE LENGTH OF SERVICE			5.64					
AVERAGE ENTRY AGE			31.23					

FRESNO COUNTY
TOTAL ANNUAL SALARY AND
MEMBERSHIP DISTRIBUTION OF
ACTIVE SAFETY MEMBERS
AS OF JUNE 30, 1977

YEARS OF SERVICE

PRESENT AGE	0-4	5-9	10-14	15-19	20-24	25-29	OVER 30	TOTAL
19 & BELOW	1 14,175							14,175
20-24	35 461,507							461,507
25-29	92 1,348,818	28 483,834						1,832,652
30-34	44 649,366	69 1,233,352	18 351,594					2,234,312
35-39	11 176,743	16 284,677	18 341,919	4 88,603				891,942
40-44	1 14,175	8 147,659	16 307,190	10 211,416				680,440
45-49		1 17,284	13 247,483	18 367,837	10 206,963			839,567
50-54			4 81,443	2 38,498	9 177,557	14 348,230		645,728
55-59		1 20,778	2 40,594		8 156,725	1 28,260		246,357
60-64								
65-69								
70 & OVER								
TOTAL	184 2,664,784	123 2,187,584	71 1,370,223	34 706,354	27 541,245	15 376,490		7,846,680
AVERAGE ATTAINED AGE				34.94				
AVERAGE LENGTH OF SERVICE				8.13				
AVERAGE ENTRY AGE				26.81				

COUNTY OF FRESNOGeneral MembersNumber of Active Members and Total Annual Salariesby Sex and Attained Age

<u>Age</u>	<u>Male</u>		<u>Female</u>		<u>Total</u>	
	<u>No.</u>	<u>Salary</u>	<u>No.</u>	<u>Salary</u>	<u>No.</u>	<u>Salary</u>
20 & Under	5	\$ 35,468	50	\$ 363,558	55	\$ 399,026
21	12	97,776	46	355,149	58	452,925
22	26	235,907	75	611,427	101	847,334
23	33	300,536	81	765,235	114	1,065,771
24	39	399,686	120	1,119,178	159	1,518,864
25	50	531,639	137	1,382,160	187	1,913,799
26	72	812,802	135	1,412,253	207	2,225,055
27	87	1,094,920	114	1,273,294	201	2,368,214
28	82	1,079,523	116	1,265,523	198	2,345,046
29	97	1,310,450	144	1,562,832	241	2,873,282
30	112	1,674,631	114	1,337,538	226	3,012,169
31	122	1,887,317	93	1,039,515	215	2,926,832
32	89	1,289,338	74	863,032	163	2,152,370
33	88	1,454,161	63	828,263	151	2,282,424
34	69	998,265	68	821,012	137	1,819,277
35	72	1,198,624	53	645,989	125	1,844,613
36	61	1,059,220	57	671,912	118	1,731,132
37	47	757,008	65	724,410	112	1,481,418
38	39	674,985	47	506,083	86	1,181,068
39	43	744,504	44	470,396	87	1,214,900
40	62	1,084,366	44	488,279	106	1,572,645
41	35	592,675	43	502,850	78	1,095,525
42	51	888,368	52	588,001	103	1,476,369
43	56	872,447	38	477,244	94	1,349,691
44	37	646,072	43	478,445	80	1,124,517

COUNTY OF FRESNOGeneral MembersNumber of Active Members and Total Annual Salariesby Sex and Attained Age

Age	Male		Female		Total	
	No.	Salary	No.	Salary	No.	Salary
45	46	\$ 913,157	51	\$ 592,444	97	\$ 1,505,601
46	40	676,654	49	549,063	89	1,225,717
47	50	859,408	53	613,045	103	1,472,453
48	33	543,215	39	453,519	72	996,734
49	38	612,813	52	557,358	90	1,170,171
50	45	837,999	59	660,414	104	1,498,413
51	25	419,760	43	495,762	68	915,522
52	35	634,533	41	512,418	76	1,146,951
53	36	655,597	50	574,589	86	1,230,186
54	37	648,884	37	471,349	74	1,120,233
55	37	642,990	59	722,332	96	1,365,322
56	30	473,725	49	559,107	79	1,032,832
57	26	460,519	46	585,344	72	1,045,863
58	31	565,849	26	323,118	57	888,967
59	27	455,362	35	438,738	62	894,100
60	22	336,846	29	315,636	51	652,482
61	24	388,192	29	320,659	53	708,851
62	16	233,478	15	191,594	31	425,072
63	11	143,925	8	86,116	19	230,041
64	6	122,595	10	115,304	16	237,899
65	4	70,417	11	138,072	15	208,489
66	3	37,216	1	10,430	4	47,646
67 & over	9	218,011	1	9,201	10	227,212
Total	2,117	\$32,671,833	2,709	\$29,849,190	4,826	\$62,521,023

COUNTY OF FRESNOSAFETY MEMBERSNumber of Active Members and Total Annual SalariesBy Attained Age

<u>Age</u>	<u>No.</u>	<u>Salary</u>	<u>Age</u>	<u>No.</u>	<u>Salary</u>
21 & under	1	\$ 14,175			
22	4	49,528			
23	4	51,958			
24	15	214,623			
25	22	283,639	45	8	\$ 146,403
26	22	321,586	46	9	176,426
27	22	336,238	47	5	97,774
28	30	464,942	48	9	179,905
29	21	335,652	49	8	169,529
30	35	551,747	50	9	202,282
31	29	492,496	51	4	89,393
32	30	501,058	52	4	82,294
33	22	389,685	53	11	227,960
34	21	359,259	54	5	127,936
35	15	281,699	55	2	42,540
36	18	322,094	56	5	109,154
37	6	104,308	57	4	79,619
38	6	118,062	58	1	18,157
39	12	223,682	59	1	18,157
40	4	71,481	60 & over	—	—
41	8	155,454			
42	9	173,771			
43	5	102,908			
44	8	159,106			
			Total	454	\$7,846,680

COUNTY OF FRESNO

Summary of Monthly Allowances Being Paid

General Members

	<u>Number</u>	<u>Basic Monthly Allowances</u>
1. Service Retirement	842	\$197,582
2. Disability Retirement	121	29,292
3. Beneficiaries	<u>87</u>	<u>13,974</u>
4. Total	1,050	\$240,848*

Safety Members

	<u>Number</u>	<u>Basic Monthly Allowances</u>
1. Service Retirement	43	\$ 25,011
2. Disability Retirement	11	6,108
3. Beneficiaries	<u>6</u>	<u>1,339</u>
4. Total	60	\$ 32,458*

*In addition to these amounts, the following monthly cost of living allowances are being paid:

General Members \$26,624
Safety Members \$ 4,090

COUNTY OF FRESNO

Section VI (vi)

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	.1648	.0003	.0000	.0000	.0000	.0000	.0000	.0000
21	.1549	.0003	.0000	.0000	.0000	.0000	.0000	.0008
22	.1453	.0003	.0000	.0000	.0000	.0000	.0000	.0018
23	.1361	.0003	.0000	.0000	.0000	.0000	.0000	.0028
24	.1272	.0003	.0000	.0000	.0000	.0000	.0000	.0040
25	.1187	.0004	.0001	.0000	.0002	.0000	.0000	.0052
26	.1106	.0004	.0001	.0000	.0002	.0000	.0000	.0065
27	.1027	.0004	.0001	.0000	.0002	.0000	.0000	.0081
28	.0953	.0004	.0001	.0000	.0002	.0000	.0000	.0098
29	.0881	.0004	.0001	.0000	.0002	.0000	.0000	.0113
30	.0813	.0005	.0002	.0000	.0002	.0000	.0001	.0128
31	.0748	.0005	.0002	.0000	.0003	.0000	.0001	.0141
32	.0686	.0005	.0002	.0000	.0003	.0000	.0001	.0154
33	.0628	.0006	.0003	.0000	.0003	.0000	.0001	.0165
34	.0573	.0006	.0003	.0000	.0003	.0000	.0001	.0175
35	.0521	.0006	.0003	.0000	.0003	.0000	.0001	.0185
36	.0473	.0007	.0005	.0000	.0003	.0000	.0001	.0194
37	.0428	.0007	.0005	.0000	.0004	.0000	.0001	.0202
38	.0386	.0008	.0005	.0000	.0004	.0000	.0001	.0209
39	.0348	.0008	.0006	.0000	.0004	.0000	.0001	.0216
40	.0312	.0009	.0007	.0000	.0004	.0000	.0002	.0222
41	.0282	.0010	.0008	.0000	.0005	.0001	.0002	.0228
42	.0255	.0010	.0011	.0000	.0005	.0001	.0002	.0233
43	.0231	.0011	.0013	.0000	.0006	.0001	.0003	.0238
44	.0210	.0012	.0016	.0000	.0007	.0001	.0004	.0242

COUNTY OF FRESNO

General Male Members

Probabilities of Separation Prior to Retirement

(Continued)

Age	Withdrawal	Ordinary Death	Ordinary Disability	Service	Death While Eligible	Duty Death	Duty Disability	Vested Termination
45	.0190	.0013	.0020	.0000	.0008	.0001	.0004	.0245
46	.0172	.0015	.0024	.0000	.0009	.0001	.0005	.0247
47	.0154	.0016	.0027	.0000	.0010	.0001	.0006	.0248
48	.0138	.0018	.0030	.0000	.0012	.0001	.0007	.0247
49	.0123	.0019	.0034	.0000	.0013	.0001	.0007	.0246
50	.0112	.0021	.0054	.0100	.0015	.0001	.0012	.0243
51	.0101	.0023	.0060	.0100	.0016	.0001	.0013	.0238
52	.0094	.0025	.0065	.0100	.0018	.0002	.0014	.0232
53	.0086	.0027	.0069	.0130	.0020	.0002	.0015	.0224
54	.0079	.0030	.0073	.0180	.0023	.0002	.0016	.0215
55	.0073	.0033	.0079	.0240	.0025	.0002	.0017	.0204
56	.0066	.0036	.0084	.0320	.0028	.0002	.0018	.0191
57	.0059	.0040	.0088	.0420	.0031	.0002	.0019	.0175
58	.0053	.0044	.0093	.0540	.0034	.0002	.0021	.0156
59	.0046	.0048	.0098	.0680	.0037	.0003	.0022	.0134
60	.0000	.0053	.0085	.0850	.0040	.0003	.0019	.0106
61	.0000	.0058	.0082	.1040	.0043	.0003	.0018	.0074
62	.0000	.0064	.0079	.2065	.0047	.0003	.0017	.0055
63	.0000	.0070	.0075	.1490	.0050	.0003	.0017	.0041
64	.0000	.0077	.0071	.1750	.0054	.0004	.0016	.0031
65	.0000	.0085	.0000	.2020	.0058	.0004	.0000	.0023
66	.0000	.0093	.0000	.2310	.0062	.0004	.0000	.0016
67	.0000	.0000	.0000	.9999	.0000	.0000	.0000	.0000

COUNTY OF FRESNO

General Female Members
Probabilities of Separation Prior to Retirement

Age	Withdrawal	Ordinary Death	Ordinary Disability	Service	Death While Eligible	Duty Death	Duty Disability	Vested Termination
20	.2594	.0001	.0000	.0000	.0000	.0000	.0000	.0000
21	.2477	.0001	.0000	.0000	.0000	.0000	.0000	.0006
22	.2359	.0001	.0000	.0000	.0000	.0000	.0000	.0012
23	.2242	.0001	.0000	.0000	.0000	.0000	.0000	.0018
24	.2125	.0002	.0000	.0000	.0000	.0000	.0000	.0025
25	.2007	.0003	.0001	.0000	.0000	.0000	.0000	.0032
26	.1890	.0003	.0003	.0000	.0000	.0000	.0000	.0038
27	.1772	.0003	.0006	.0000	.0000	.0000	.0000	.0045
28	.1655	.0003	.0006	.0000	.0000	.0000	.0000	.0052
29	.1537	.0003	.0006	.0000	.0000	.0000	.0000	.0059
30	.1420	.0003	.0007	.0000	.0000	.0000	.0000	.0065
31	.1301	.0003	.0007	.0000	.0000	.0000	.0000	.0072
32	.1185	.0003	.0007	.0000	.0000	.0000	.0000	.0078
33	.1075	.0004	.0007	.0000	.0000	.0000	.0000	.0084
34	.0970	.0004	.0007	.0000	.0000	.0000	.0000	.0090
35	.0881	.0004	.0007	.0000	.0000	.0000	.0000	.0096
36	.0805	.0005	.0007	.0000	.0000	.0000	.0000	.0102
37	.0738	.0006	.0007	.0000	.0000	.0000	.0000	.0108
38	.0676	.0007	.0009	.0000	.0000	.0000	.0000	.0114
39	.0619	.0008	.0009	.0000	.0000	.0000	.0000	.0119
40	.0571	.0008	.0009	.0000	.0000	.0000	.0001	.0124
41	.0528	.0009	.0011	.0000	.0000	.0000	.0001	.0129
42	.0490	.0009	.0013	.0000	.0000	.0000	.0001	.0133
43	.0456	.0010	.0015	.0000	.0000	.0000	.0001	.0135
44	.0425	.0010	.0016	.0000	.0000	.0000	.0001	.0137

COUNTY OF FRESNO

General Female Members
Probabilities of Separation Prior to Retirement

(Continued)

Age	Withdrawal	Ordinary Death	Ordinary Disability	Service	Death While Eligible	Duty Death	Duty Disability	Vested Termination
45	.0397	.0011	.0021	.0000	.0000	.0000	.0001	.0138
46	.0373	.0012	.0023	.0000	.0000	.0000	.0002	.0138
47	.0350	.0013	.0026	.0000	.0000	.0000	.0002	.0138
48	.0329	.0014	.0030	.0000	.0000	.0000	.0002	.0136
49	.0309	.0015	.0033	.0000	.0000	.0000	.0002	.0134
50	.0288	.0016	.0036	.0070	.0000	.0000	.0003	.0132
51	.0269	.0017	.0039	.0070	.0000	.0000	.0003	.0129
52	.0251	.0018	.0042	.0070	.0000	.0000	.0003	.0125
53	.0233	.0020	.0046	.0080	.0000	.0000	.0003	.0121
54	.0217	.0021	.0051	.0120	.0000	.0000	.0004	.0116
55	.0203	.0023	.0055	.0180	.0000	.0000	.0004	.0110
56	.0189	.0026	.0062	.0280	.0000	.0000	.0005	.0103
57	.0175	.0028	.0069	.0410	.0000	.0000	.0005	.0095
58	.0161	.0029	.0075	.0570	.0000	.0000	.0006	.0086
59	.0147	.0031	.0082	.0770	.0000	.0000	.0006	.0076
60	.0000	.0032	.0088	.1010	.0000	.0000	.0006	.0066
61	.0000	.0034	.0095	.1300	.0000	.0000	.0007	.0054
62	.0000	.0036	.0102	.2568	.0000	.0000	.0007	.0044
63	.0000	.0037	.0108	.2000	.0000	.0000	.0008	.0035
64	.0000	.0038	.0115	.2420	.0000	.0000	.0008	.0028
65	.0000	.0057	.0000	.2890	.0000	.0000	.0000	.0021
66	.0000	.0060	.0000	.3400	.0000	.0000	.0000	.0015
67	.0000	.0000	.0000	.9999	.0000	.0000	.0000	.0000

COUNTY OF FRESNO

Section VI (vi)

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	.0483	.0006	.0000	.0000	.0000	.0000	.0008	.0000
21	.0467	.0006	.0000	.0000	.0000	.0000	.0008	.0000
22	.0452	.0006	.0000	.0000	.0000	.0000	.0008	.0000
23	.0436	.0006	.0000	.0000	.0000	.0000	.0009	.0000
24	.0420	.0006	.0000	.0000	.0000	.0000	.0009	.0000
25	.0405	.0001	.0000	.0000	.0005	.0000	.0009	.0000
26	.0389	.0001	.0000	.0000	.0005	.0000	.0011	.0000
27	.0373	.0001	.0000	.0000	.0005	.0000	.0011	.0000
28	.0357	.0001	.0000	.0000	.0005	.0000	.0012	.0000
29	.0342	.0001	.0000	.0000	.0006	.0000	.0012	.0000
30	.0326	.0001	.0000	.0000	.0006	.0000	.0014	.0000
31	.0310	.0001	.0000	.0000	.0006	.0000	.0014	.0000
32	.0295	.0002	.0000	.0000	.0006	.0000	.0016	.0000
33	.0279	.0002	.0000	.0000	.0006	.0000	.0017	.0000
34	.0263	.0002	.0000	.0000	.0006	.0011	.0020	.0000
35	.0247	.0002	.0000	.0000	.0006	.0012	.0023	.0000
36	.0232	.0002	.0000	.0000	.0007	.0012	.0026	.0000
37	.0216	.0002	.0000	.0000	.0008	.0013	.0031	.0000
38	.0204	.0002	.0000	.0000	.0009	.0013	.0036	.0000
39	.0192	.0002	.0000	.0000	.0010	.0015	.0040	.0000
40	.0181	.0003	.0000	.0000	.0010	.0015	.0045	.0000
41	.0169	.0003	.0000	.0000	.0011	.0016	.0050	.0000
42	.0157	.0003	.0000	.0000	.0012	.0017	.0054	.0000
43	.0145	.0003	.0000	.0000	.0013	.0018	.0059	.0000
44	.0134	.0003	.0000	.0000	.0014	.0019	.0065	.0000

COUNTY OF FRESNO

Safety Members

Probabilities of Separation Prior to Retirement

(Continued)

Age	Withdrawal	Ordinary Death	Ordinary Disability	Service	Death While Eligible	Duty Death	Duty Disability	Vested Termination
45	.0122	.0004	.0000	.0000	.0014	.0019	.0071	.0000
46	.0110	.0004	.0000	.0000	.0015	.0020	.0078	.0000
47	.0098	.0004	.0000	.0000	.0016	.0020	.0084	.0000
48	.0086	.0004	.0000	.0000	.0017	.0021	.0090	.0000
49	.0075	.0004	.0000	.0000	.0018	.0022	.0096	.0000
50	.0000	.0005	.0000	.0919	.0019	.0022	.0102	.0000
51	.0000	.0005	.0000	.0736	.0020	.0023	.0109	.0000
52	.0000	.0005	.0000	.0552	.0022	.0023	.0115	.0000
53	.0000	.0006	.0000	.0736	.0023	.0024	.0121	.0000
54	.0000	.0006	.0000	.0919	.0025	.0025	.0127	.0000
55	.0000	.0007	.0000	.1324	.0026	.0026	.0133	.0000
56	.0000	.0007	.0000	.1986	.0028	.0026	.0140	.0000
57	.0000	.0007	.0000	.2648	.0029	.0028	.0146	.0000
58	.0000	.0007	.0000	.3310	.0030	.0029	.0152	.0000
59	.0000	.0008	.0000	.4965	.0031	.0030	.0158	.0000
60	.0000	.0000	.0000	.9999	.0000	.0000	.0000	.0000

COUNTY OF FRESNOGeneral Members' Basic Rates of ContributionSection 31676.12 (Integrated)*Interest at 5-3/4%**

<u>Entry Age</u>	<u>First \$350 of Monthly Compensation</u>	<u>Excess of Monthly Compensation over \$350</u>
16	2.89%	4.34%
17	2.89	4.34
18	2.89	4.34
19	2.89	4.34
20	2.89	4.34
21	2.89	4.34
22	2.90	4.35
23	2.91	4.36
24	2.91	4.37
25	2.92	4.38
26	2.93	4.39
27	2.94	4.41
28	2.95	4.43
29	2.97	4.46
30	2.99	4.48
31	3.01	4.51
32	3.03	4.54
33	3.05	4.57
34	3.07	4.61
35	3.09	4.64
36	3.12	4.68
37	3.14	4.71
38	3.17	4.75
39	3.19	4.79

* $\frac{1}{2}$ contribution rates as a percentage of salary.

**Includes a salary scale reflecting merit and longevity and 3% inflation. Interest credited to members' accounts is 5 1/4%.

COUNTY OF FRESNOGeneral Members' Basic Rates of ContributionSection 31676.12 (Integrated)*Interest at 5-3/4%**

<u>Entry Age</u>	<u>First \$350 of Monthly Compensation</u>	<u>Excess of Monthly Compensation over \$350</u>
40	3.21%	4.82%
41	3.24	4.86
42	3.27	4.90
43	3.29	4.94
44	3.32	4.98
45	3.35	5.02
46	3.37	5.06
47	3.40	5.10
48	3.43	5.14
49	3.45	5.18
50	3.48	5.22
51	3.51	5.27
52	3.54	5.31
53	3.57	5.35
54	3.60	5.40
55	3.63	5.44
56	3.66	5.49
57	3.69	5.54
58	3.72	5.58
59 & over	3.75	5.63

* $\frac{1}{2}$ contribution rates as a percentage of salary.

**Includes a salary scale reflecting merit and longevity and 3% inflation.
Interest credited to members' accounts is 5 $\frac{1}{4}$ %.

COUNTY OF FRESNOSafety Members' Basic Rates of ContributionSection 31664 (Integrated)*Interest at 5-3/4%**

<u>Entry Age</u>	<u>First \$350 of Monthly Compensation</u>	<u>Excess of Monthly Compensation over \$350</u>
21	3.45%	5.18%
22	3.47	5.21
23	3.49	5.23
24	3.51	5.26
25	3.53	5.30
26	3.55	5.33
27	3.57	5.36
28	3.60	5.40
29	3.63	5.44
30	3.65	5.48
31	3.68	5.52
32	3.71	5.56
33	3.73	5.60
34	3.76	5.64
35 & Over	3.79	5.69

* $\frac{1}{2}$ contribution rates as a percentage of salary.

**Includes a salary scale reflecting merit and longevity and 3% inflation.
Interest credited to members' accounts is 5 1/4%.

COUNTY OF FRESNOCost-of-Living Contribution Rates*Partial Funding MethodGeneral MembersInterest at 5-3/4%

<u>Entry Age</u>	<u>First \$350 of Monthly Compensation</u>	<u>Excess of Monthly Compensation Over \$350</u>
16	.79%	1.18%
17	.79	1.18
18	.79	1.18
19	.79	1.18
20	.79	1.18
21	.79	1.18
22	.79	1.18
23	.79	1.19
24	.79	1.19
25	.79	1.19
26	.79	1.19
27	.80	1.20
28	.80	1.20
29	.81	1.21
30	.81	1.22
31	.82	1.23
32	.82	1.23
33	.83	1.24
34	.83	1.25
35	.84	1.26
36	.85	1.27
37	.85	1.28
38	.86	1.29
39	.87	1.30

*27.18% of basic rates

COUNTY OF FRESNOCost-of-Living Contribution Rates*Partial Funding MethodGeneral Members
(Continued)Interest at 5-3/4%

<u>Entry Age</u>	<u>First \$350 of Monthly Compensation</u>	<u>Excess of Monthly Compensation Over \$350</u>
40	.87%	1.31%
41	.88	1.32
42	.89	1.33
43	.89	1.34
44	.90	1.35
45	.91	1.36
46	.92	1.38
47	.93	1.39
48	.93	1.40
49	.94	1.41
50	.95	1.42
51	.95	1.43
52	.96	1.44
53	.97	1.45
54	.98	1.47
55	.99	1.48
56	.99	1.49
57	1.01	1.51
58	1.01	1.52
59 & Over	1.02	1.53

*27.18% of basic rates

COUNTY OF FRESNOCost-of-Living Contribution Rates*Partial Funding MethodSafety MembersInterest at 5-3/4%

<u>Entry Age</u>	<u>First \$350 of Monthly Compensation</u>	<u>Excess of Monthly Compensation Over \$350</u>
21	.94%	1.41%
22	.95	1.42
23	.95	1.42
24	.95	1.43
25	.96	1.44
26	.97	1.45
27	.97	1.46
28	.98	1.47
29	.99	1.48
30	.99	1.49
31	1.00	1.50
32	1.01	1.51
33	1.01	1.52
34	1.02	1.53
35 & Over	1.03	1.55

*27.18% of basic rates

COUNTY OF FRESNOCost-of-Living Contribution Rates*Stronger Funding Method

(Recommended)

General MembersInterest at 5-3/4%

<u>Entry Age</u>	<u>First \$350 of Monthly Compensation</u>	<u>Excess of Monthly Compensation Over \$350</u>
16	1.33%	1.99%
17	1.33	1.99
18	1.33	1.99
19	1.33	1.99
20	1.33	1.99
21	1.33	1.99
22	1.33	2.00
23	1.33	2.00
24	1.34	2.01
25	1.34	2.01
26	1.35	2.02
27	1.35	2.03
28	1.36	2.04
29	1.37	2.05
30	1.37	2.06
31	1.38	2.07
32	1.39	2.09
33	1.40	2.10
34	1.41	2.12
35	1.42	2.13
36	1.43	2.15
37	1.44	2.16
38	1.45	2.18
39	1.47	2.20

*45.95% of basic rates

COUNTY OF FRESNOCost-of-Living Contribution Rates*Stronger Funding Method

(Recommended)

General MembersInterest at 5-3/4%

<u>Entry Age</u>	<u>First \$350 of Monthly Compensation</u>	<u>Excess of Monthly Compensation Over \$350</u>
40	1.47%	2.21%
41	1.49	2.23
42	1.50	2.25
43	1.51	2.27
44	1.53	2.29
45	1.54	2.31
46	1.55	2.33
47	1.56	2.34
48	1.57	2.36
49	1.59	2.38
50	1.60	2.40
51	1.61	2.42
52	1.63	2.44
53	1.64	2.46
54	1.65	2.48
55	1.67	2.50
56	1.68	2.52
57	1.70	2.55
58	1.71	2.56
59 & Over	1.73	2.59

*45.95% of basic rates

COUNTY OF FRESNO

Cost-of-Living Contribution Rates*

Stronger Funding Method

(Recommended)

Safety Members

Interest at 5-3/4%

<u>Entry Age</u>	<u>First \$350 of Monthly Compensation</u>	<u>Excess of Monthly Compensation Over \$350</u>
21	1.59%	2.38%
22	1.59	2.39
23	1.60	2.40
24	1.61	2.42
25	1.63	2.44
26	1.63	2.45
27	1.64	2.46
28	1.65	2.48
29	1.67	2.50
30	1.68	2.52
31	1.69	2.54
32	1.70	2.55
33	1.71	2.57
34	1.73	2.59
35 & Over	1.74	2.61

*45.95% of basic rates

COUNTY OF FRESNO

Accounting Principles Board Opinion #8

Pension Expense Provision

The accounting profession has established standards for determining pension expense for purposes of financial statements. These standards have been set up not to establish the proper funding standards for a particular pension plan but to maintain consistency, comparability, and somewhat reasonable stability of cost from year to year. In order to achieve this the accounting profession has designed a set of standards for measuring the progress of funding the vested benefit obligation. This does not mean, of course, that the system is required to contribute what the accounting profession says but only that any difference between what is contributed by the system and what is suggested by the accounting profession's guidelines will be reflected in the financial statements. These requirements basically consist of specifying costing standards, the method for paying off the unfunded liability, the establishment of a minimum and a maximum contribution for purposes of balance sheet accruals and also maintaining the relative stability of a contribution requirement to the system from year to year.

It should be emphasized that the amount necessary to be contributed on a yearly basis is not affected by provisions of this Opinion. Compliance with Accounting Principles Board Opinion #8 does not, in and of itself, provide for an adequate funding standard as established by the actuary for the System. It is within the actuary's province and expertise to

1/20/78

determine the effects of the costing and funding standards required to maintain the pension plan on a sound financial basis. This point is sometimes misunderstood by interested parties who are not thoroughly familiar with the technical aspects of the funding of a pension plan system.

Both private and public retirement systems are subjected to the Opinion. However, the Opinion was designed with private plans in mind and might not in all cases appear reasonable for use with public plans.

The following page is designed solely for use by accountants in determining the amount to be treated by them as pension plan expense for the year under Opinion #8.

COUNTY OF FRESNO

Financial Statement Information Required by
Opinion No. 8 of the Accounting Principles Board

For the Year Beginning July 1, 1977 and ending June 30, 1978

Pension Expense Provisions and Status of Vested Liabilities*

1. As of 7/1/77 the present value of vested benefits was ^{100,186,796}\$79,452,907 while the applicable assets at cost value amount to \$82,707,612. The excess the present value of vested benefits over the cost value of assets is equal to \$(3,254,705).
^{17,479,184 - 2205}
2. In our opinion, the range of provisions for the period 7/1/77 - 6/30/78 under paragraph 17 of the Opinion are as follows:
 - (a) Maximum Provisions

(1) Normal Cost	\$ 6,633,643
(2) 10% of Unfunded Liability	<u>6,224,353</u>
(3) Total = (1)+(2)	\$12,857,996
 - (b) Minimum Provisions

(1) Normal Cost	\$ 6,633,643
(2) Interest on Unfunded Liability (5 3/4%)	<u>3,579,003</u>
(3) Total = (1)+(2)	\$10,212,646
 - (c) Recommended Provision

(1) Normal Cost	\$ 6,633,643
(2) Amortization of Unfunded Liability	<u>2,846,751</u>
(3) Total = (1)+(2)	\$ 9,480,394

The provisions shown here are for financial statement purposes only.

3. The changes made in the actuarial assumptions in this valuation were:
 - a. the interest rate was changed from 5% to 5-3/4%.
 - b. salary scales were changed from merit, longevity + 1/2% inflation per year to merit, longevity + 3% inflation per year.
 - c. the mortality after service retirement was changed to provide for slightly longer life expectations.
 - d. from the active experience analysis the probabilities of withdrawal were reduced some and the probabilities of disability and retirement were increased some.
 - e. the method for funding the cost of living benefit was made stronger.
4. Actuarial gains and losses are spread through the routine application of the actuarial cost method.
5. In our opinion, the actuarial cost method and assumptions used in this valuation are acceptable under the Opinion.

*Based upon 5-3/4% interest and assumptions used in the basic valuation.

EMPLOYEES' RETIREMENT ASSOCIATIONOF THECOUNTY OF FRESNOACCOUNTING BALANCE SHEETas ofJune 30, 1977ASSETS

1. Cash on hand	\$ 4,490,438.14
2. Securities owned (cost basis)	78,183,133.24
3. Contributions receivable	114,617.17
4. Due from fiscal agent - Bond Trades	<u>101,279.23</u>
5. Total Assets	<u>\$82,889,467.78</u>

LIABILITIES

6. Members' deposit reserve	
a. Normal contributions	\$21,480,885.95
b. Cost-of-living contributions	<u>2,029,045.29</u>
	\$23,509,931.24
7. Current service advance reserve	16,451,275.56
8. Current service pension reserve	27,996,043.18
9. Annuity reserve	7,161,820.06
10. Survivors' death benefit reserve	952,948.84
11. Cost-of-living reserve	2,641,971.19
12. Investment contingency reserve	3,993,621.40
13. Due to fiscal agent - Bond Trades	<u>181,856.31</u>
14. Total Liabilities	<u>\$82,889,467.78</u>

COUNTY OF FRESNO

Ratio of Current Compensation to Compensation
Anticipated at Age 67 for Male General Members

Merit and Longevity + 3% for Inflation

<u>Age</u>	<u>Ratio</u>	<u>Age</u>	<u>Ratio</u>
20	.126	45	.466
21	.139	46	.483
22	.152	47	.500
23	.166	48	.517
24	.179	49	.535
25	.194	50	.555
26	.208	51	.575
27	.222	52	.594
28	.237	53	.615
29	.252	54	.637
30	.266	55	.660
31	.282	56	.683
32	.297	57	.707
33	.308	58	.731
34	.319	59	.758
35	.330	60	.784
36	.341	61	.811
37	.354	62	.841
38	.366	63	.871
39	.379	64	.901
40	.392	65	.932
41	.406	66	.966
42	.421	67	1.000
43	.435		
44	.451		

COUNTY OF FRESNORatio of Current Compensation to Compensation
Anticipated at Age 67 for Female General MembersMerit and Longevity + 3% for Inflation

<u>Age</u>	<u>Ratio</u>	<u>Age</u>	<u>Ratio</u>
20	.142	45	.455
21	.151	46	.473
22	.160	47	.491
23	.169	48	.510
24	.179	49	.530
25	.188	50	.549
26	.198	51	.571
27	.209	52	.592
28	.220	53	.614
29	.230	54	.636
30	.241	55	.660
31	.253	56	.683
32	.265	57	.707
33	.277	58	.731
34	.290	59	.758
35	.300	60	.784
36	.316	61	.811
37	.329	62	.841
38	.344	63	.871
39	.359	64	.901
40	.373	65	.932
41	.388	66	.966
42	.405	67	1.000
43	.421		
44	.437		

COUNTY OF FRESNORatio of Current Compensation to Compensation
Anticipated at Age 60 for Safety MembersMerit and Longevity + 3% for Inflation

<u>Age</u>	<u>Ratio</u>	<u>Age</u>	<u>Ratio</u>
20	.215	40	.500
21	.229	41	.518
22	.241	42	.536
23	.253	43	.555
24	.265	44	.575
25	.277	45	.594
26	.289	46	.616
27	.302	47	.638
28	.315	48	.660
29	.328	49	.683
30	.342	50	.707
31	.356	51	.732
32	.370	52	.758
33	.385	53	.785
34	.400	54	.812
35	.415	55	.841
36	.431	56	.871
37	.448	57	.902
38	.465	58	.933
39	.483	59	.966
		60	1.000