W F CORROON

COUNTY OF SANTA BARBARA
EMPLOYEES' RETIREMENT SYSTEM

ACTUARIAL REPORT
as of
December 31, 1992

W F CORROON

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April 13, 1993

Board of Retirement
County Employees' Retirement Association
County of Santa Barbara
Santa Barbara, California 93101
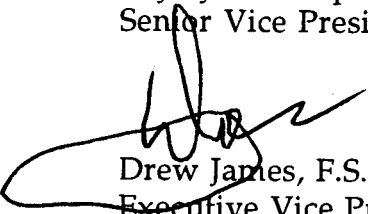
Ladies and Gentlemen:

Pursuant to our agreement, we have completed our report on the experience analysis and actuarial valuation results of the County's Retirement System as of December 31, 1992, and we are pleased to submit the results of our survey.

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 assignment.

Respectfully submitted,

W F CORROON

Krystyna H. Upstill, E.A., M.A.A.A.
Senior Vice President and Actuary

Drew James, F.S.A., M.A.A.A.
Executive Vice President and Actuary

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Enclosure

COUNTY OF SANTA BARBARA

DECEMBER 31, 1992

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I	REPORT PREFACE

(i) EXECUTIVE SUMMARY

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

Section I - Report Preface

A comparison between membership data as of December 31, 1992 and 1990 is presented in subsection (iii). In comparing the data, we found that the number of active members grew by 2%, the total retired pension roll increased by 24% and the Book Value of assets went up by 30%.

Section II - Actuarial Assumptions

(i) NONECONOMIC ACTUARIAL ASSUMPTION

The biennial experience study was conducted at the time of this valuation. The data for the previous two years was analyzed regarding service retirements, deaths, disablements and terminations of employment and was compared to the incidence expected using the actuarial assumptions current at that time. Where the results differed materially, the actuarial assumptions were modified.

The two main areas affecting employer costs where adjustments were needed were future withdrawals and future rates of disablement.

- Withdrawal: fewer members withdrew from the System than expected causing the costs to go up.

- Disabilities: there were fewer disability retirements granted during the last two years. We lowered our future probabilities of disablement, thus lowering future disability costs.

(ii) ECONOMIC ACTUARIAL ASSUMPTION

In order to insure that the same inflationary expectations are consistently included in all of the economic assumptions, we have utilized a component approach in deriving our economic assumptions. Specifically, we have assumed that the investment return earned over the long term is made up of two components.

- inflation, and
- real rate of return.

In addition, we have assumed that future salary increases will be made up of components for:

- inflation, and
- merit and longevity increases.

In our report we are recommending that the inflation assumption be lowered to a 5% long term level in anticipation of a continuation of a lower inflationary environment. In addition, based upon future anticipated returns on the System's target asset mix, we recommend that a 3-1/4% future real rate of return be assumed. In combination, these assumptions equate to an 8-1/4% long term investment return assumption.

The same inflation assumption, 5%, is reflected in the recommended long term salary increase assumption.

Section III - Valuation Results

Our results are based on the following two sets of long term economic actuarial assumptions:

Study #1 — 8-1/2% interest and 5-1/2% inflation assumption. This is the current set of economic assumptions, and

Study #2 — 8-1/4% interest and 5% inflation assumption. This is the recommended set of economic assumptions.

(i) EMPLOYER RATES

Study #1 rates reflect current economic assumption (8-1/2% interest, 5-1/2% inflation), membership information and unaudited financial information through December 31, 1992. The recalculated employer contribution rates have decreased slightly due to the $11.2 million transfer, unrealized appreciation in assets recognized by our actuarial asset method, and lower incidence of disability. This was partially offset by fewer withdrawals. Since interest is the most significant actuarial assumption, Study #2 results in higher costs for the employer than Study #1. For employees, some rates are lower and some are higher under Study #2 (as compared to current rates). Typically, younger entry age employees will see a small decrease in their rates while those who enter the System at older ages will see a small increase. These results reflect the way the formula specified in the 1937 Act and used to calculate employee rates is affected by interest and inflation. These are discussed in more detail in Section III(i).

(ii) FUNDING PROGRESS OF THE SYSTEM

In order to judge the funding progress of the System, a comparison was made of the System's liabilities for benefits earned to date to the current value of assets. For this purpose, liabilities were calculated on both a Plan Termination and the Governmental Accounting Standards Board Statement No. 5 (GASB No. 5) basis. These liabilities include all liabilities for current retired and inactive members, including future automatic cost-of-living increases. For current active members, the liability measured is the proportion of projected retirement benefits earned to date, where the proportion was measured based on service to date

divided by service earned to retirement. The plan termination basis assumes that the plan terminates as of 1/1/93 and salaries are frozen at the current levels, whereas the GASB No. 5 ratio assumes an on-going plan with salary increases projected into the future.

The funding ratios at Book Value are slightly lower, due to higher than expected salary increases given to many of the active members which in turn leads to higher benefits projected to be paid at retirement, and higher actuarial liability.

(iii) <u>ACTUARIAL BALANCE SHEET</u>

The actuarial balance sheet compares the present value of all future benefits anticipated to be paid for the current membership with the sources of funds to be used to provide these benefits. It illustrates that if recommended contribution levels made in the future under the current actuarial assumptions prove out over time, current assets plus future employer and member contributions will be adequate to cover all future benefit payments for the current membership.

Section IV - Appendix

A summary of the major provisions of the System is included, as well as detailed information on the actuarial assumptions and demographic information. General Tier 1, Safety and Probation member contribution rates by entry age are shown in Section IV(vii)

(ii) HIGHLIGHTS OF STATISTICAL DATA

We received statistical data as of October 31, 1992 and have updated the membership and salary information through December 31, 1992. The December 31, 1990 and December 31, 1992 actuarial valuations of your System were based on the following data:

	December 31, 1990	December 31, 1992	Percentage Increase (Decrease) During the Two Year Period
Active Members			
General Plan 1			
Number	2,490	2,548	2%
Total annual salary	$ 82,646,000	$ 92,866,000	12%
Average monthly salary	$ 2,766	$ 3,037	10%
General Plan 2			
Number	179	162	(9)%
Total annual salary	$ 5,579,000	$ 5,554,000	0%
Average monthly salary	$ 2,597	$ 2,857	10%
Safety			
Number	591	610	3%
Total annual salary	$ 24,797,000	$ 27,347,000	10%
Average monthly salary	$ 3,496	$ 3,736	7%
Probation*			
Number	145	144	(1)%
Total annual salary	$ 5,363,000	$ 5,765,000	7%
Average monthly salary	$ 3,082	$ 3,336	8%
General, Safety and Probation			
Number	3,405	3,464	2%
Total annual salary	$ 118,385,000	$ 131,532,000	11%
Average monthly salary	$ 2,897	$ ° 3,164	9%
Retired Members			
Number	1,457	1,587	9%
Total annual salary (basic)	$ 10,077,000	$ 12,532,000	24%
Average monthly allowance(basic)	$ 576	$ 658	14%
Total annual pension roll (basic and COLA)	$ 12,738,000	$ 15,824,000	24%
Average monthly allowance (basic and COLA)	$ 729	$ 831	14%
Inactive Vested Members			
Number	287	316	10%
Net Assets Available			
At Book Value	$ 331,097,000	$ 429,421,000	30%
At Market Value	$ 350,967,000	$ 490,547,000	40%

*Salaries do not include December 31, 1992 adjustments since these are temporary in nature and will not materially affect our results.

SECTION	
II	ACTUARIAL ASSUMPTIONS

Probabilities of Separation From Service Prior to Retirement

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

First, the probabilities of each of these were developed to reflect the actual experience that took place during the 2-year investigation period, November 1, 1990 through October 31, 1992. Then, a comparison was made between the probabilities of separation used in the previous valuation and those developed for the current study and all necessary adjustments were made.

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

Non-Vested Withdrawal

As a result of the active investigation, it was found that the actual number of nonvested withdrawals for both General and Safety members was lower than expected, especially at the older ages. The rates of withdrawal were reduced to reflect this experience.

A decrease in withdrawal rates results in <u>additional</u> costs to the System.

Service Retirement

We saw no need to change the General and Safety member service retirement rates at this time. These rates were revised two years ago to reflect a trend towards earlier retirement for General male members.

Disability Retirement

The actual number of duty and ordinary disability was lower than expected for General and Safety members and the small number of cases pending as of December 31, 1992 suggests that changes are needed at this time in the ordinary and duty related disability rates for General and Safety members. The rates were adjusted to reflect lower numbers of disabilities expected in the future.

A decrease in the incidence of disability results in <u>lower</u> costs to the System.

Death Before Retirement

The numbers of deaths before retirement were lower than expected for ordinary death for General male members, ordinary and death while eligible for General female members and ordinary and duty death for Safety members. The rates were adjusted to reflect this experience.

Deferred Retirement

During the current investigation period, the incidence of vested withdrawal was lower than expected for all groups. As a result, the rates were decreased.

Summary of Probabilities of Separation

The rates of separation from active service have been discussed in the foregoing paragraphs. However, it is difficult to obtain the meaning of the various probabilities of separation by examining each one of them separately. This is because each of the probabilities depends on the others. For example, if there is more turnover, there will be fewer retirements. Because of this interdependency, it is helpful to develop another table which takes this into account. Exhibit 1 at the end of this Section shows for both General and Safety members the expected number of present active members who will eventually separate from the System for each of the various causes of termination based on the new set of assumptions, and Exhibit 2 based on the old probabilities. In Exhibit 3, we illustrate graphically the differences in the probabilities of separation from the System. The new recommended rates are summarized in Section IV(vi) of this report.

Mortality after Service Retirement

At the time of the last actuarial study of the Retirement System, the 1983 Group Annuity Mortality Table set ahead 1 year for General and Safety members was used as the basis for mortality after service retirement. Based on these tables, the expected numbers of retired deaths during the 2-year investigation period were 41 for General males, 44 for General females and 4 for Safety members. The actual numbers were 40, 43, and 4 respectively.

Based on this experience, and the experience of other Counties we serve, we recommend that the current mortality table continue to be used to reflect the life expectancies being experienced by your group.

The life expectancies under this table for members retired for service are as follows for representative ages:

YEARS OF LIFE EXPECTANCY

Age	Male	Female	Safety
50	28.30	33.97	28.30
60	19.83	24.78	19.83
70	12.54	16.34	12.54
80	7.21	9.63	7.21

Mortality after Disability Retirement

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

The expected number of deaths of retired disabled members for the two years under investigation was 7 for General members and 2 for Safety members. The actual numbers of deaths were 6 and 2, respectively. Based on this experience, and that of other Counties we serve, we have continued to use the 1981 Disability Mortality Table for both General and Safety members.

Mortality Basis For Employee Contribution Rates

In accordance with the 1937 County Retirement Act, we calculated basic contribution rates under benefit Section 31676.1 for General members using the 1983 Group Annuity Mortality male table with a 2-year setback to reflect a sex independent mortality table. This is the same assumption as was used in the last valuation.

The Safety members' unisex rates are based on the 1983 Group Annuity Mortality male table set forward one year and represent no change since the last valuation.

Exhibit 1
Expected Number to Eventually Separate for Indicated Cause
(Based on New Actuarial Assumptions)

GENERAL MALE MEMBERS

Present Age	Number of Actives	Withdrawal	Ordinary Death	Ordinary Disability	Service	Death While Eligible	Duty Death	Duty Disability	Terminated Vested
20-24	13	11	0	0	1	0	0	0	1
25-29	74	52	1	0	10	1	0	1	9
30-34	142	81	2	1	30	2	0	2	24
35-39	193	83	3	3	61	4	0	4	35
40-44	213	66	4	5	91	5	0	6	36
45-49	174	38	4	4	96	4	0	5	23
50-54	112	16	2	3	76	3	0	3	9
55-59	83	7	2	2	65	2	0	2	3
60-64	48	2	1	1	42	1	0	0	1
65 & OVER	19	1	0	0	18	0	0	0	0
TOTAL	1,071	357	19	19	490	22	0	23	141
		(33.3%)	(1.8%)	(1.8%)	(45.7%)	(2.1%)	(0.0%)	(2.1%)	(13.2%)

GENERAL FEMALE MEMBERS

Present Age	Number of Actives	Withdrawal	Ordinary Death	Ordinary Disability	Service	Death While Eligible	Duty Death	Duty Disability	Terminated Vested
20-24	60	53	0	0	3	0	0	0	4
25-29	165	130	1	1	13	0	0	1	19
30-34	244	159	2	2	36	1	0	2	42
35-39	275	138	3	4	72	2	0	3	53
40-44	254	92	3	5	102	2	0	4	46
45-49	240	64	3	5	129	3	0	4	32
50-54	151	28	2	3	103	2	0	3	10
55-59	117	14	2	2	93	1	0	2	3
60-64	101	6	1	1	90	1	0	1	1
65 & OVER	32	1	0	0	31	0	0	0	0
TOTAL	1,639	685	17	23	672	12	0	20	210
		(41.8%)	(1.0%)	(1.4%)	(41.1%)	(0.7%)	(0.0%)	(1.2%)	(12.8%)

SAFETY & PROBATION MEMBERS

Present Age	Number of Actives	Withdrawal	Ordinary Death	Ordinary Disability	Service	Death While Eligible	Duty Death	Duty Disability	Terminated Vested
20-24	21	10	0	0	6	0	0	2	3
25-29	71	24	0	2	25	1	1	8	10
30-34	123	28	1	3	58	2	1	18	12
35-39	132	17	1	4	78	2	1	21	8
40-44	110	7	1	3	77	2	1	16	3
45-49	161	5	1	3	129	2	2	18	1
50-54	102	1	1	1	91	1	1	6	0
55 & OVER	34	0	0	0	34	0	0	0	0
TOTAL	754	92	5	16	498	10	7	89	37
		(12.2%)	(0.7%)	(2.1%)	(66.1%)	(1.3%)	(0.9%)	(11.8%)	(4.9%)

Exhibit 2
Expected Number to Eventually Separate for Indicated Cause
(Based on Current Actuarial Assumptions)

GENERAL MALE MEMBERS

Present Age	Number of Actives	Withdrawal	Ordinary Death	Ordinary Disability	Service	Death While Eligible	Duty Death	Duty Disability	Terminated Vested
20-24	13	11	0	0	1	0	0	0	1
25-29	74	55	1	0	7	0	0	1	10
30-34	142	88	2	1	22	2	0	2	25
35-39	193	97	3	3	46	3	0	5	36
40-44	213	81	5	4	74	4	0	6	39
45-49	174	47	4	4	83	4	0	6	26
50-54	112	20	3	3	69	3	0	3	11
55-59	83	9	2	2	61	2	0	2	5
60-64	48	3	1	1	40	1	0	1	1
65 & OVER	19	1	0	0	18	0	0	0	0
TOTAL	1,071	412	21	18	421	19	0	26	154
		(38.5%)	(2.0%)	(1.7%)	(39.2%)	(1.8%)	(0.0%)	(2.4%)	(14.4%)

GENERAL FEMALE MEMBERS

| Present Age	Number of Actives	Withdrawal	Ordinary Death	Ordinary Disability	Service	Death While Eligible	Duty Death	Duty Disability	Terminated Vested
20-24	60	54	0	0	2	0	0	0	4
25-29	165	131	1	1	11	0	0	1	20
30-34	244	162	2	2	32	1	0	2	43
35-39	275	146	3	4	65	2	0	4	51
40-44	254	102	4	5	94	3	0	5	41
45-49	240	70	4	5	124	3	0	6	28
50-54	151	29	3	3	102	2	0	3	9
55-59	117	14	2	2	92	2	0	2	3
60-64	101	6	2	1	89	1	0	1	1
65 & OVER	32	1	0	0	31	0	0	0	0
TOTAL	1,639	715	21	23	642	14	0	24	200
		(43.6%)	(1.3%)	(1.4%)	(39.1%)	(0.9%)	(0.0%)	(1.5%)	(12.2%)

SAFETY & PROBATION MEMBERS

Present Age	Number of Actives	Withdrawal	Ordinary Death	Ordinary Disability	Service	Death While Eligible	Duty Death	Duty Disability	Terminated Vested
20-24	21	10	0	0	3	0	0	2	6
25-29	71	26	0	1	13	1	1	11	18
30-34	123	33	1	4	35	1	1	27	21
35-39	132	22	1	5	53	1	2	34	14
40-44	110	10	1	4	58	1	2	28	6
45-49	161	7	1	4	109	2	2	33	3
50-54	102	1	1	1	85	1	1	12	0
55 & OVER	34	0	0	0	34	0	0	0	0
TOTAL	754	109	5	19	390	7	9	147	68
		(14.5%)	(0.7%)	(2.5%)	(51.7%)	(0.9%)	(1.2%)	(19.5%)	(9.0%)

Exhibit 2
Expected Number to Eventually Separate for Indicated Cause
(Based on Current and New Actuarial Assumptions)

Male Members

Female Members

Safety and Probation Members

■ Current Assumptions   ▨ New Assumptions
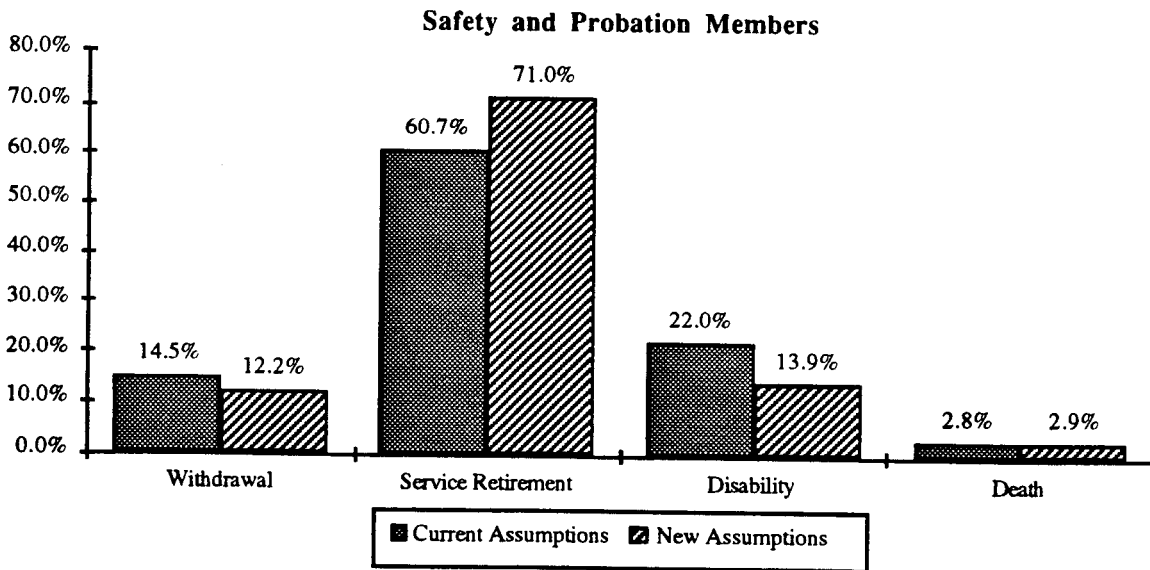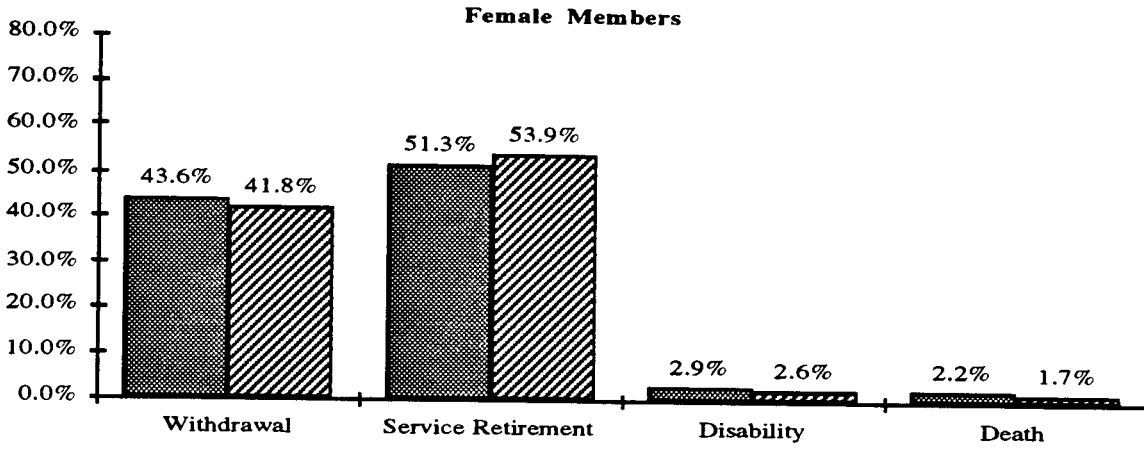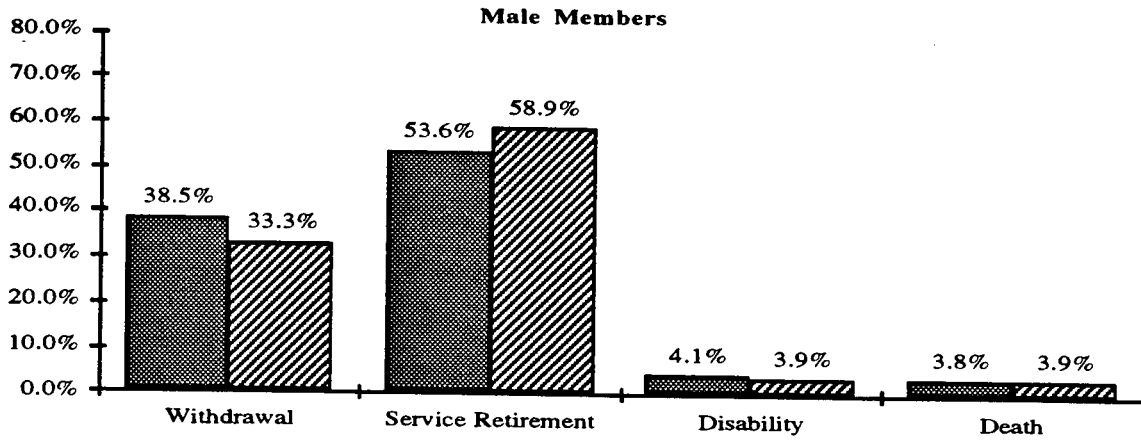
(ii) ECONOMIC ACTUARIAL ASSUMPTIONS

Interest Rate Assumption

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

- Inflation
- Real rate of return

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

Inflation

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

Based on all these considerations, the use of a 4.75% to 5.00% annual inflation rate will produce costs and liabilities that can be expected to be reasonably stable over the long-term future.

The inflationary salary assumptions used by the 1937 Act Counties are shown below in Table 1. As can be seen in Table 1, the average assumption is 5.03%. Inflation assumption utilized by California PERS is 5.25%.

TABLE 1

CURRENT LONG-TERM INFLATIONARY
ASSUMPTIONS USED BY 1937 ACT COUNTIES

Retirement System	Inflation	Retirement System	Inflation
Alameda	5.50%	Sacramento	5.00%
Contra Costa	5.25%	San Bernardino	5.00%
Fresno	5.00%	San Diego	5.00%
Imperial	3.50%	San Joaquin	5.50%
Kern	4.00%	San Mateo	5.00%
Los Angeles	5.00%	Sonoma	5.50%
Marin	5.00%	Stanislaus	5.50%
Mendocino	5.50%	Tulare	5.00%
Merced	5.50%	Ventura	5.25%
Orange	4.50%		
		Average	5.03%

Real Rate of Return

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

The current asset allocation utilized by the System is shown in Table 2.

TABLE 2

SBCERS ASSET ALLOCATION AS OF 12/31/92*

	Current	Target
Stocks	44%	48%
Fixed Income/Bonds	51%	48%
Real Estate Equity	1%	3%
Cash and Short Term	4%	1%

*At Market Value.

Many empirical studies have been carried out to measure historical real rates of return on various types of investments. One of the most notable is that by Roger Ibbotson and Rex A. Sinquefield, titled Stocks, Bonds and Inflation: Simulations of the Future. Investment consulting firms utilize this and other studies to derive expected long-term real rates of return for use in asset allocation models. These models serve as an aid to retirement plan fiduciaries in determining what proportion of the plans' investment portfolio to place in various classes of securities. In Table 3 we show a range of real rates of return used by some of the large investment firms. We have gathered this information from various sources, although primarily from asset allocation studies carried out for SBCERS and our other clients.

TABLE 3

REAL RETURNS USED BY INVESTMENT CONSULTANTS

Stocks	6.5% to 7.5%
Long-term bonds	3.0% to 4.0%
Real estate equity	4.0% to 5.0%
Treasury bills	1.0% to 1.5%

Applying the target asset allocation (Table 2) to the information in Table 3 results in a real rate of return in the range of 4.7% to 5.7%. However, there are a number of additional factors which must be considered before arriving at an appropriate level for actuarial valuation purposes. These are discussed below:

Administrative Expenses – Investment and some administrative expenses of the Fund are being paid from the earnings. These expenses have amounted to approximately 0.2%, mostly for investment management fees.

<u>Variations in Return Rates</u> – Annual real rates of return have varied substantially over the years. For example, even if we expect the averages displayed in Table 3 to be a reasonable estimate of real returns in the future, we know there is some likelihood that future real rates will fall below historical averages.

In order to quantify this one would need to know what is referred to statistically as the standard error of the estimate. As an approximation of this quantity, we have utilized historical information available as to the expected variation in real rates of return. If we make certain assumptions about the statistical nature of the average real returns, the results are that in order to be about 75% certain that the actual return is no less than our estimate, it would be necessary to use a value about 1% below that derived above. It should be noted that this derived margin is only approximate since the U.S. economy is a complex, dynamic system.

<u>Adherence to Target Asset Allocation</u> – As can be seen from Table 2, variations in the actual versus the target asset allocation will occur from time to time. For example, market conditions may cause cash holdings to increase for some period. In general, we expect that as long as such variations generally arise as part of the investment managers' short term strategy to maximize returns, no additional margin needs to be built into the determination of the System's expected real rate of return.

Based upon this information, anticipated real rates of returns for these classes of investments and the potential for variation in real rates of return, we believe that a 3-1/4% real rate of return assumption is reasonable in conjunction with the 4-3/4% to 5% inflation rate. This results in an interest rate assumptions of 8% to 8-1/4%.

<u>Historic Rate of Return</u>
The net investment yields as well as the rates of return assumed by the Fund over the past twelve years were as follows:

SBCERS YIELDS VS. ASSUMED RATE OF RETURNS
NET YIELD @ BOOK VALUE

Year Ended	Excluding Realized Profit and Losses	Including Realized Profit and Losses	Assumed Rates of Returns
June 30, 1981	11.4%	10.2%	6.00%
June 30, 1982	12.5%	11.7%	6.00%
June 30, 1983	10.5%	10.9%	7.00%
June 30, 1984	7.1%	3.0%	7.00%
June 30, 1985	10.5%	13.7%	7.00%
June 30, 1986	8.8%	24.2%	7.75%
June 30, 1987	7.2%	16.6%	7.75%
June 30, 1988	7.1%	4.0%	8.50%
June 30, 1989	7.1%	10.3%	8.50%
June 30, 1990	6.6%	11.3%	8.50%
June 30, 1991	6.7%	8.6%	8.50%
June 30, 1992	6.5%	13.0%	8.50%
12-year average	8.5%	11.5%	7.58%

Salary Scale Assumption

The salary scale assumption is comprised of two components:
- Inflation
- Merit and Longevity

Inflation

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

Merit and Longevity Increases

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

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

Special Reserve for Interest Fluctuation

The special reserve for interest fluctuation (formerly contingency reserve) of $4,221,970 as of December 31, 1992 has been funded by investment income that has exceeded the interest crediting benchmark over the years. It will be utilized to supplement investment income in shortfall periods. The following describes its importance in the financial operation of the 1937 Act and the setting of actuarial interest rates.

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

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

With respect to application Item 2, six-month returns on the fund are volatile, due to the short measuring period. In some six-month periods, the returns will exceed the benchmark, and in others they will fall short. Given that the actuarial rate serves as a benchmark, there is a natural tendency to minimize the probability of a shortfall by setting a lower benchmark. The special reserve for interest fluctuation counteracts this tendency by serving as a stabilizing mechanism which allows the county retirement systems to consistently maintain a higher level of interest crediting on reserve accounts that are used to determine employer contribution rates.

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

Actuarial Book Value of Assets

The Retirement Board has adopted the use of a modified book value of the Fund's assets for purposes of calculating the required contribution rates. Under this approach, recognition is given each year to total earning of the Fund to date.

The approach used by your System is to spread each year's unrealized gains and losses over five years. In other words, only 20% of unrealized gains and losses are to be recognized in any one year. Furthermore, these adjusted assets cannot at any time exceed the Market Value by more than 20%, or be less than 80% of the Market Value. Please note that starting with the plan year ending June 30, 1993, realized and unrealized gains and losses will be treated the same. This will be done on a prospective basis only i.e., the effect of this change will be reflected in subsequent actuarial valuations.

These modified assets, which we called the Actuarial Book Value, were arrived at as follows:

1. Unrealized Gains (Losses)

Plan Year Ending June 30	Change in Total Unrealized Gains (Losses) 100%	Percentage Recognized to 12/31/92	Total Unrealized Gains (Losses) Recognized to 12/31/92
1988*	$ 12,442,384	100%	$ 12,442,384
1989	$ 19,776,203	90%	$ 17,798,582
1990	$ 1,001,858	70%	$ 701,301
1991	$ 5,358,656	50%	$ 2,679,328
1992	$ 26,505,503	30%	$ 7,951,651
1992**	$ (3,958,665)	10%	$ (395,867)

2. Total Gains (Losses) Recognized to December 31, 1992 $ 41,177,379

3. Book Value as of December 31, 1992 (less payables) $ 429,420,587

4. Item 2. + Item 3. $ 470,597,966

5. Corridor Limit: (Net assets @ Market: $490,546,525)
   a. 80% of Market Value (less payables) $ 392,437,220
   b. 120% of Market Value (less payables) $ 588,655,830

6. Item 4. After Corridor Applied $ 470,597,966

7. Actuarial Book Value Ratio (Item 6. / Item 3.)   1.09589

*Total as of 6/30/88.

**Last six months of 1992.

The ratio arrived at in Item 7 above is only used to adjust the reserves used in determining the employer contribution rate. These reserves are the Member Deposit, County Advance and Retired Member Reserves. Total assets at Actuarial Book, with the ratio applied only to these reserves, are $484,999,525. These assets were derived as follows:

1. Member Deposit, County Advance and
   Retired Member Reserves $ 353,467,013

2. Actuarial Book Value Ratio   1.09589

3. Item 1. * Item 2. $ 387,360,965

4. Special Reserve for Interest Fluctuation, Unallocated
   Fund Balance, Retiree Health Insurance and Burial
   Allowance Reserves, and Accounts Payable $ 97,638,560

5. Actuarial Book Value of Assets (Item 3. + Item 4.) $ 484,999,525

Summary of Assumptions

In connection with this survey, we have performed valuations based on the following scenarios.

Study	Interest Rate Assumption	(1) Inflation Assumption	(2) Merit and Longevity*	(1) + (2) Salary Scale Assumption
1	8.50%	5.50%	1.00%	6.50%

This valuation is based on the current set of economic assumptions.

Study	Interest Rate Assumption	(1) Inflation Assumption	(2) Merit and Longevity*	(1) + (2) Salary Scale Assumption
2	8.25%	5.00%	1.00%	6.00%

This valuation is based on the recommended set of economic assumptions.

*Approximate.

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

SECTION III	VALUATION RESULTS

(i) CONTRIBUTION RATES

A comparison of Employer and employee total (basic and cost of living) rates on a group basis follows. This comparison shows rates currently contributed as well as rates resulting from our new study. Contribution rates are based upon benefit Section 31676.1 for General Plan 1 members, Section 31486 for General Plan 2 members and Section 31664 for Safety and Probation members. The annual amounts are based on the December 31, 1992 payroll of $131,532,000.

COMPOSITE CONTRIBUTION RATES AND ANNUAL AMOUNTS

	EMPLOYER		EMPLOYEE	
	% of Payroll	Annual Amount	% of Payroll	Annual Amount
Current rates @ 8-1/2% interest and 5-1/2% inflation	14.61%	$ 19,211,000	3.41%	$ 4,481,000
Recalculated rates:				
Study #1 @ 8-1/2% interest and 5-1/2% inflation	14.20%	$ 18,679,000	3.41%	$ 4,481,000
Study #2 @ 8-1/4% interest and 5% inflation	14.62%	$ 19,226,000	3.38%	$ 4,445,000

In comparing the current rates with those recalculated by this study (Study #1), each based on the same economic assumptions, we note a small decrease in the Employer rate. This decrease is primarily due to $11.2 million transfers, unrealized appreciation in assets and fewer disability retirements, offset somewhat by lower than expected future withdrawals from the System, and higher than expected salary increases. The decrease was also reflective of the assumption change for the health insurance from 100% to a 75% participation level.

In comparing Study #1 member contribution rates, the rates remain the same because the assumptions on which these are based were not changed.

Study #2 Employer rates are slightly higher due to lower investment earnings expected in the future, offset by lower projected salary increases.

For employees, some rates are lower and some are higher under Study #2 (as compared to the current rates). Typically, younger entry age employees will see a small decrease in their rates while those who enter the System at older ages will see a small increase. These results reflect the way the formula specified in the 1937 Act and used to calculate employee rates is affected by interest and inflation.

A comparison of the Employer contribution rates is shown in Table A following this Section. Table B shows a similar comparison of the member contribution rates. The individual employee contribution rates are shown in Table C.

Member contributions are payable over the employee's future working lifetime. The Employer rates reflect the Entry Age Normal Funding method. Under this method, part of the liability is being paid over the future working lifetimes of the members. The remaining supplemental past service liability is being amortized over 13 years from the valuation date.

TABLE A

Current Rates

8-1/2% INTEREST AND 5-1/2% INFLATION ASSUMPTIONS

	PLAN 1	PLAN 2	SAFETY	PROBATION	COMBINED
Basic	9.34%	6.55%	17.86%	16.29%	11.30%
COL	3.37%	1.10%	8.29%	9.34%	4.56%
Subtotal 1	12.71%	7.65%	26.15%	25.63%	15.86%
Designated Liability Transfer	-0.29%	-0.29%	-0.29%	-0.29%	-0.29%
Subtotal 2	12.42%	7.36%	25.86%	25.34%	15.57%
Golden Handshake	0.13%	0.16%	0.30%	0.00%	0.16%
Subtotal 3	12.55%	7.52%	26.16%	25.34%	15.73%
Health Insurance	0.40%	0.40%	0.40%	0.40%	0.40%
Actuarial Book Value of Assets	-1.27%	-1.27%	-2.63%	-0.58%	-1.52%
Total 4	11.68%	6.65%	23.93%	25.16%	14.61%

Employer Rates Updated by 12/31/92 Valuation and Experience Analysis

Study #1 – 8-1/2% INTEREST AND 5-1/2% INFLATION ASSUMPTIONS
(Current Economic Assumptions)

	PLAN 1	PLAN 2	SAFETY	PROBATION*	COMBINED
Basic	10.25%	7.24%	17.33%	14.97%	11.80%
COL	4.15%	1.74%	8.56%	8.62%	5.16%
Subtotal 1	14.40%	8.98%	25.89%	23.59%	16.96%
Designated Liability Transfer of $11.2 million as of 12/31/92	-0.78%	-0.78%	-0.78%	-0.78%	-0.78%
Subtotal 2	13.62%	8.20%	25.11%	22.81%	16.18%
Golden Handshake	0.13%	0.16%	0.26%	0.09%	0.16%
Subtotal 3	13.75%	8.36%	25.37%	22.90%	16.34%
Health Insurance	0.22%	0.22%	0.22%	0.22%	0.22%
Actuarial Book Value of Assets	-1.89%	-1.89%	-4.22%	-1.52%	-2.36%
Total 4	12.08%	6.69%	21.37%	21.60%	14.20%

*The Probation Officers' rates do not reflect December 1992 salary adjustments since these are temporary in nature and will not materially affect our results.

Rates Updated by 12/31/92 Valuation and Experience Analysis

Study #2 – 8-1/4% INTEREST AND 5% INFLATION ASSUMPTIONS
(Recommended Actuarial Assumptions)

	PLAN 1	PLAN 2	SAFETY	PROBATION*	COMBINED
Basic	10.39%	7.48%	17.61%	15.10%	11.97%
COL	4.33%	1.91%	9.10%	8.92%	5.42%
Subtotal 1	14.72%	9.39%	26.71%	24.02%	17.40%
Designated Liability Transfer of $11.2 million as of 12/31/92	-0.79%	-0.79%	-0.79%	-0.79%	-0.79%
Subtotal 2	13.93%	8.60%	25.92%	23.23%	16.61%
Golden Handshake	0.14%	0.14%	0.28%	0.10%	0.17%
Subtotal 3	14.07%	8.74%	26.20%	23.33%	16.77%
Health Insurance	0.24%	0.24%	0.24%	0.24%	0.24%
Actuarial Book Value of Assets	-1.92%	-1.92%	-4.29%	-1.54%	-2.40%
Total 4	12.39%	7.06%	22.15%	22.03%	14.62%

*The Probation Officers' rates do not reflect December 1992 salary adjustments since these are temporary in nature and will not materially affect our results.

Comparison of Employee Contribution Rates*

CURRENT RATES (BEFORE STUDY)
8-1/2% interest, and 5-1/2% inflation assumption

GENERAL PLAN 1 MEMBERS		SAFETY MEMBERS		PROBATION OFFICERS	
Entry Age	Basic	Entry Age	Basic	Entry Age	Basic
20	2.86%	21	4.20%	21	8.41%
40	3.14%	30	4.46%	30	8.92%
59	3.83%	49	5.01%	49	10.03%

Average Rate = 3.41%

RATES UPDATED BY 12/31/92 STUDY
Study #1 – 8-1/2% interest, and 5-1/2% inflation assumption

GENERAL PLAN 1 MEMBERS		SAFETY MEMBERS		PROBATION OFFICERS	
Entry Age	Basic	Entry Age	Basic	Entry Age	Basic
20	2.86%	21	4.20%	21	8.41%
40	3.14%	30	4.46%	30	8.92%
59	3.83%	49	5.01%	49	10.03%

Average Rate = 3.41%

Study #2 – 8-1/4% interest, and 5% inflation assumption

GENERAL PLAN 1 MEMBERS		SAFETY MEMBERS		PROBATION OFFICERS	
Entry Age	Basic	Entry Age	Basic	Entry Age	Basic
20	2.78%	21	4.14%	21	8.29%
40	3.12%	30	4.45%	30	8.90%
59	3.90%	49	5.13%	49	10.25%

Average Rate = 3.38%

*Reflect salary increases due to both merit and longevity and inflation and half rates for General Plan 1 and Safety members and full rates for Probation Officers.

NOTE: COLA Contributions are no longer required due to transfers from undistributed earnings.

(ii) FUNDING PROGRESS OF THE SYSTEM

A comparison of the measurement of the funding progress of the System in successive valuations is an important criteria for determining the soundness of a pension system. Unless amendments are made to the System, in any soundly funded System the assets should be increasing at a greater rate than the liabilities for benefits earned to date. This will have the effect of increasing the funding progress ratio in future years.

GASB #5 - "Plan Continuation" Assumption With Future Salary Increases

At the time of the last valuation the ratio of the assets of the System to the obligation for benefits earned to date based on a plan continuation assumption was calculated. We believe that a comparison of this ratio from one valuation date to the next will help the Board to monitor the progress of the funding status of the System. To this end, we include below a comparison of the funding ratios based on the 8-1/4% interest and 6% total salary scale assumptions.

		PREVIOUSLY CALCULATED 8-1/2% TO 6-1/2%		CALCULATED 8-1/4% TO 6%
		12/31/91	12/31/92	12/31/92
1.	Assets at Book Value*	$ 332,170,000	$ 429,421,000	$ 429,421,000
2.	Present Value of Benefits			
	a. Retired members	$ 143,673,000	$ 182,800,000	$ 186,765,000
	b. Inactive members	9,614,000	9,988,000	10,290,000
	c. Member contributions	47,566,000	53,996,000	53,996,000
	d. Employer financed portion			
	i) vested	141,072,000	163,066,000	163,767,000
	ii) nonvested	17,272,000	18,486,000	18,431,000
	e. Other designated reserves	41,176,000	51,480,000	51,480,000
	f. Total	$ 400,373,000	$ 479,816,000	$ 484,729,000
3.	Funding Ratio (1)/(2)	83%	89%	89%

*Excludes accounts payable.

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

The funding ratio of 89% at the recommended 8-1/4% interest rate assumption as developed in this study is consistent compared to the funding ratios of most public retirement plans.

(iii) ACTUARIAL BALANCE SHEET

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

Item #

1. The total assets in the Retirement Fund as of December 31, 1992, taken from the Accounting Balance Sheet.

2. The present value of contributions that are anticipated will be made by present members after January 1, 1993, until their separation from the System as active members.

3. The present value of future contributions that will be required of the employer in order to provide the basic benefits and the cost of living benefits anticipated on account of present active, inactive and retired members after taking into account the contributions being provided by the members.

5. The actuarial present value of the allowances which are currently being paid to retired members and beneficiaries on account of service, disability, and survivor benefits.

6. The present value of retirement allowances for anticipated future service and disability retirements, including continuance to spouses, to active and inactive members.

7. The present value of death benefits payable on account of the death of currently active members.

8. The present value of termination benefits payable on account of the withdrawal (refund) of currently active members.

9. The reserves held for future adverse experiences.

10. The reserves for the $1,000 lump sum death benefit payable on death of each retired member, retiree health insurance coverage and supplemental benefits.

ACTUARIAL BALANCE SHEET*
As of December 31, 1992

ASSETS

	Basic	COL	Total
1. Total assets now held @ Book Value	$ 350,537,038	$ 100,568,534	$ 451,105,572
2. Present value of future contributions by members	40,896,116	0	40,896,116
3. Present value of future contributions by County			
a. Normal Cost	94,959,347	41,285,080	136,244,427
b. Unfunded Actuarial Accrued Liability	69,411,566	32,027,727	101,439,293
4. **Total actuarial assets**	$ 555,804,067	$ 173,881,341	$ 729,685,408

LIABILITIES

	Basic	COL	Total
5. Present value of retirement allowances payable to present retired members	$ 116,664,888	$ 70,099,691	$ 186,764,579
6. Present value of retirement allowances to be granted:			
a. For service retirement	287 332,536	88,377,834	375,710,370
b. For disability retirement	33,279,856	12,754,483	46,034,339
7. Present value of death benefits to be granted:			
a. 6 months' salary death benefit and return of contributions	1,566,983	50,257	1,617,240
b. Death while eligible to retire	3,620,739	1,276,014	4,896,753
c. Duty death	2,137,869	831,840	2,969,709
8. Present value of members' contributions to be returned upon withdrawal before retirement	13,562,636	491,222	14,053,858
9. Contingency reserve	4,221,970	0	4,221,970
10. Other designated reserves	71,731,604	0	71,731,604
11. Miscellaneous liabilities	21,684,986	0	21,684,986
12. **Total actuarial liabilities**	$ 555,804,067	$ 173,881,341	$ 729,685,408

*Based on 8-1/4% interest rate and total salary scale of 6%.

(iv) SPECIAL STUDY

Health Insurance Offset

We have been requested to determine the lump sum liabilities and funding based on the Entry Age Normal Cost Method with a supplemental accrued liability amortized for 13 years (current funding method of pension plan) for the Health Insurance Offset benefit. This monthly benefit amount is equal to $8.00 for each year of service at retirement. This benefit does not receive any future adjustment after retirement. Please note that we have assumed 75% participation.

We show below the summary of results from our calculations based on the recommended actuarial assumptions.

SUMMARY OF RESULTS AS OF DECEMBER 31, 1992

	Study #2
Present Value of Benefits	
Actives and Term Vested	$ 13,584,000
Retired	15,652,000
Total	$ 29,236,000
Accrued Liability	$ 26,204,000
Health Coverage Reserve	$ 30,737,000
Unfunded Accrued Liability	$ (4,533,000)
Present Value Future Normal Cost	$ 3,032,000

Contribution rate to fully fund this benefit and expressed as a level percentage of payroll is shown below.

STUDY #2

Contribution	% of Payroll
Normal Cost	.24%
UAL	(.32)
Total	(.08)%

Please note that this benefit is currently overfunded. However, the liabilities shown above do not include future benefit accruals for current members or new hires and assumes only a 75% participation level. To the extent that the 75% participation level assumption proves to be low, additional funding will be needed in the future. Also, as current and new active employees accrue benefits, this creates additional liabilities. With this in mind, we recommend that this benefit continue to be funded at the Normal Cost level, or .24% of total payroll.

SECTION
IV

APPENDIX

(i) MAJOR PROVISIONS OF THE PENSION PLAN

Benefit Sections 31676.1, 31486 and 31664 of the 1937 County Act

Briefly summarized on the following pages are the major provisions of the County Employees Retirement Law of 1937, as amended through December 31, 1992, and as adopted by Santa Barbara County.

Effective July 1, 1986, Santa Barbara County Employees' Retirement System adopted an optional noncontributory plan for General members under Section 31486 referred to as Plan 2. The contributory plan for General members under Section 31676.1 is referred to as Plan 1. At the time of adoption all members under Plan 1 were eligible to transfer to Plan 2 during a 90-day period. All vested members under Plan 2 may elect to transfer to Plan 1 for future service only.

GENERAL MEMBERS

	PLAN 1	PLAN 2
Section	31676.1	31486.4
Normal Retirement Age (NRA)	65	65
Vesting Requirement	5 years	10 years
Final Average Salary (FAS)	1 year	3 years
Service Retirement		
a. Benefit @ 65	2.43% of FAS per year of service	(2% of FAS less 1/35th of Social Security benefit at age 65) per year of service**
b. Earliest retirement age	50	55
c. Early reduction factor at:		
1) Age 50	.49	
2) Age 55	.61	Actuarial Equivalent
3) Age 60	.79	
4) Age 62	.86	
d. Maximum benefit	100% of FAS plus Social Security	Benefit and Social Security combined cannot exceed 70% of FAS if service is less than 35, otherwise 80%
Disability Retirement		
a. Nonservice connected		Provided Outside of the Plan
1) Eligibility	5 years	First day of work
2) Disabled definition	Disabled for employee's job	First 2 years-disabled on job after 2 years - Social Security disability; 6 months waiting period;
3) Benefit	Usually 1/3 FAS	60% of salary. Payments reduced by other disability income benefits.
4) Age benefit cases	Lifetime benefits; 60% continuance to spouse after death of member	Service retirement at age 65**
b. Service connected		
1) Eligibility	First day of work	(All items are the same as shown for nonservice connected)
2) Disabled definition	Substantially caused by employment and is disabled from employee's job	
3) Benefit	50% of FAS	
4) Age benefit cases	Lifetime benefits; equal amount to spouse after death of member	

*For each year of service over 35, 1% of FAS with no Social Security reduction.
**Credit give toward service retirement while disabled under the LTD Plan.

	PLAN 1	PLAN 2
Death Benefits (while active)		
a. Nonservice connected death before eligible	First five years; return of contributions plus 1 month's salary for each pay serviced (max. 6). Paid to any beneficiary	month's FAS for each year served (max. 6). Paid to any beneficiary
b. Nonservice connected death after eligible	After 5 years; usually 20% of FAS. Paid to spouse or dependent children. If no, benefit in a. shown above is paid	Same as a.
c. Service connected death	First day of work; 50% FAS. Paid to spouse or dependent children. If non, benefit in a. shown above is paid	Same as a.
Disability Retirement		
a. Automatic continuance to spouse		
1) Service retirement	60%	50%
2) Nonservice connected disability	60%	50%
3) Service connected disability	100%	50%
b. Lump sum benefit	$1,000	None
COLA Benefits	3% maximum per year	None
Employee Contributions		
a. Basic	Half rates	None
b. COLA	Members no longer pay for 1/3 future COLA costs due to a transfer from Undistributed Earnings Reserve	None
County Contributions	Responsible for balance required	Responsible for balance required

Section	31664
Normal Retirement Age (NRA)	55
Vesting Requirement	5 years
Final Average Salary (FAS)	1 year

Service Retirement

a. Benefit @ 55 — 2.62 of FAS per year of service

b. Earliest retirement age — Any age with 20 years of service

c. Early reduction factor at:
   1) Age 45 — 0.5958
   2) Age 50 — 0.7634
   3) Age 55 — 1.0000

d. Maximum benefit — 100% of FAS plus Social Security

Disability Retirement

a. Nonservice connected
   1) Eligibility — 5 years
   2) Benefit — Usually 1/3 FAS
   3) Age benefit ceases — Lifetime benefits; 60% continuance to spouse after death of member

b. Service connected
   1) Eligibility — First day of work
   2) Benefit — 50% of FAS
   3) Age benefit ceases — Lifetime benefits; equal amount of spouse after death of member

Death Benefits (while active)

a. Nonservice connected death before eligible — First five years; return of contributions plus 1 month's salary for each year (max. 6). Paid to any beneficiary

b. Nonservice connected death after eligible — After five years; usually 20% of FAS. Paid to spouse or dependent children. If none, benefit in a. shown above is paid

c. Service connected death — First day of work; 50% FAS. Paid to spouse or dependent children. If non, benefit in a. shown above is paid.

Death Benefits (after retired)

a. Automatic continuance to spouse
   1) Service retirement — 60%
   2) Nonservice connected disability — 60%
   3) Service connected disability — 100%

b. Lump sum benefit — $1,000

COLA Benefit — 3% maximum per year

a. Basic — Half rates for Safety, Full rates for Probation Officers

b. COLA — Members no longer pay for 1/3 of future COLA costs due to a transfer from Undistributed Earnings Reserve

County Contributions — Responsible for balance required

(ii) SUMMARY OF ASSUMPTIONS AND FUNDING METHOD

Assumptions

Valuation Interest Rate		8-1/4%

Post-Retirement Mortality

(a) Service

	Males	1983 Male Group Annuity Mortality Table set forward one year
	Females	1983 Female Group Annuity Mortality Table set forward one year
(b)	Disability	1981 Disability Mortality Table
(c)	For Employee Contribution Purposes	
	General	1983 Male Group Annuity Mortality Table with a two year setback
	Safety	1983 Male Group Annuity Mortality Table set forward one year

Pre-Retirement Mortality	Based upon the 1992 Experience Analysis
Withdrawal Rates	Based upon the 1992 Experience Analysis
Disability Rates	Based upon the 1992 Experience Analysis
Service Retirement Rates	Based upon the 1992 Experience Analysis

Salary Scales

(a)	Valuation Purposes	Inflationary increases of 5% per year and merit and longevity which approximates to an additional 1%
(b)	Member Contribution Rates	Increases reflecting merit and longevity and inflation increases
	Assets	Valued at Actuarial Book as described in Section II(ii).

Funding Method

The County's liability is currently being funded on the Entry Age Normal method with a Unfunded Actuarial Accrued Liability (UAAL). The amortization period for the UAAL is 13 years from the December 31, 1992 valuation date.

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

As of January 1, 1993

MALES

PRESENT AGE	YEARS OF SERVICE							
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 & OVER	TOTAL
BELOW 20								
20 - 24	13 364,304							13 364,304
25 - 29	58 1,920,806	15 485,603	1 45,325					74 2,451,734
30 - 34	81 2,906,572	50 1,949,381	11 389,517					142 5,245,470
35 - 39	89 3,337,408	69 2,804,603	30 1,341,073	5 170,419				193 7,653,503
40 - 44	72 2,792,820	53 2,532,421	56 2,832,281	27 1,291,960	5 220,645			213 9,670,127
45 - 49	48 2,226,378	47 2,607,616	33 1,547,659	23 1,052,703	18 861,714	5 215,971		174 8,512,041
50 - 54	31 1,337,900	25 1,224,754	18 947,864	17 871,816	9 398,216	8 369,212	4 195,115	112 5,344,877
55 - 59	17 583,344	13 699,744	12 521,137	13 617,367	10 439,746	11 546,459	7 348,525	83 3,756,322
60 - 64	8 307,485	8 331,869	9 387,239	8 267,773	6 294,106	4 179,866	5 212,543	48 1,980,881
65 - 69	1 98,255	7 237,728	1 98,255		1 36,011	2 88,747		12 558,996
70 & OVER	2 135,179	1 39,435	3 80,719	1 30,210				7 285,543
TOTAL	420 16,010,451	288 12,913,154	174 8,191,069	94 4,302,248	49 2,250,438	30 1,400,255	16 756,183	1,071 45,823,798

AVERAGE AGE   42.75
AVERAGE SERVICE   8.50
AVERAGE ENTRY AGE   34.25

TOTAL ANNUAL SALARY AND MEMBERSHIP DISTRIBUTION OF ACTIVE GENERAL MEMBERS

As of January 1, 1993

FEMALES

PRESENT AGE	YEARS OF SERVICE							
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 & OVER	TOTAL
BELOW 20								
20 - 24	59 1,348,611	1 25,927						60 1,374,538
25 - 29	130 3,435,578	35 994,204						165 4,429,782
30 - 34	143 4,044,516	77 2,411,642	24 760,422					244 7,216,580
35 - 39	121 3,821,360	83 2,799,733	59 2,030,427	11 354,975	1 34,830			275 9,041,325
40 - 44	107 3,285,339	80 2,730,100	40 1,571,339	18 704,115	8 309,733	1 28,954		254 8,629,580
45 - 49	84 2,669,774	69 2,564,558	47 1,791,835	21 836,865	16 616,736	3 124,438		240 8,604,206
50 - 54	61 1,957,157	43 1,607,229	21 797,670	14 513,287	9 276,719	3 107,640		151 5,259,702
55 - 59	33 956,290	33 1,054,238	22 752,099	17 610,528	9 355,114	3 86,182		117 3,814,451
60 - 64	16 545,530	27 747,509	20 646,954	13 412,864	17 635,249	7 261,463	1 26,853	101 3,276,422
65 - 69	6 140,049	5 123,940	5 128,058	6 164,946		1 26,478		23 583,471
70 & OVER	1 34,174	4 219,884		1 27,371	2 55,843		1 28,282	9 365,554
TOTAL	761 22,238,378	457 15,278,964	238 8,478,804	101 3,624,951	62 2,284,224	18 635,155	2 55,135	1,639 52,595,611

AVERAGE AGE	41.75
AVERAGE SERVICE	7.00
AVERAGE ENTRY AGE	34.75

TOTAL ANNUAL SALARY AND MEMBERSHIP DISTRIBUTION OF ACTIVE SAFETY MEMBERS
As of January 1, 1993
MALES AND FEMALES

PRESENT AGE	YEARS OF SERVICE 0-4	5-9	10-14	15-19	20-24	25-29	30 & OVER	TOTAL
BELOW 20								
20-24	19							19
	664,166							664,166
25-29	41	18						59
	1,479,530	737,640						2,217,170
30-34	27	50	21					98
	1,048,402	2,037,168	957,887					4,043,457
35-39	19	29	51	15				114
	753,029	1,200,082	2,205,155	753,915				4,912,181
40-44	12	14	21	31	4			82
	453,133	575,291	936,343	1,436,380	199,426			3,600,573
45-49	9	13	13	17	59	18		129
	430,850	568,195	599,195	837,945	3,001,656	946,149		6,383,990
50-54	2	8	8	10	26	28	2	84
	158,350	365,229	437,286	511,861	1,232,434	1,534,624	116,908	4,356,692
55-59	1	2	2	4	2	2	1	14
	44,141	89,702	88,044	182,819	85,237	89,232	75,054	654,229
60 & OVER		2	3	4	1	1		11
		75,948	136,517	184,734	57,235	59,912		514,346
TOTAL	130	136	119	81	92	49	3	610
	5,031,601	5,649,255	5,360,427	3,907,654	4,575,988	2,629,917	191,962	27,346,804

AVERAGE AGE   40.50
AVERAGE SERVICE   12.25
AVERAGE ENTRY AGE   28.25

TOTAL ANNUAL SALARY AND MEMBERSHIP DISTRIBUTION OF ACTIVE PROBATION OFFICERS

As of January 1, 1993

MALES AND FEMALES

YEARS OF SERVICE

PRESENT AGE	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 & OVER	TOTAL
BELOW 20								
20 - 24	2 52,288							2 52,288
25 - 29	10 309,318	2 77,573						12 386,891
30 - 34	6 185,989	17 647,252	2 91,176					25 924,417
35 - 39	4 128,358	8 316,884	6 269,494					18 714,736
40 - 44	4 140,914	6 257,331	13 570,061	5 184,647				28 1,152,953
45 - 49	6 210,186	8 299,287	3 130,312	11 482,607	4 294,364			32 1,416,756
50 - 54	4 127,891	2 79,658	3 121,214	4 178,015	1 49,138	3 145,735	1 58,675	18 760,326
55 - 59	1 28,529	3 109,548			2 97,904	1 36,997	1 46,188	8 319,166
60 & OVER		1 37,465						1 37,465
TOTAL	37 1,183,473	47 1,824,998	27 1,182,257	20 845,269	7 441,406	4 182,732	2 104,863	144 5,764,998

AVERAGE AGE	41.25
AVERAGE SERVICE	9.75
AVERAGE ENTRY AGE	31.50

(iv) SUMMARY OF MONTHLY ALLOWANCES
As of January 1, 1993

General Members

| Service | Number | Monthly Allowance | | |
		Basic	Cost of Living	Total
Unmodified	1,060	$ 677,186	$ 167,513	$ 844,699
Option 1	14	9,756	1,305	11,061
Options 2 & 3	22	21,432	1,759	23,191
Total	1,096	$ 708,374	$ 170,577	$ 878,951
Disability				
Unmodified	82	$ 46,500	$ 17,480	$ 63,980
Option 1	0	0	0	0
Options 2 & 3	0	0	0	0
Total	82	$ 46,500	$ 17,480	$ 63,980
Beneficiaries				
Total	198	$ 58,068	$ 28,867	$ 86,935
Total	1,376	$ 812,942	$ 216,924	$ 1,029,866

Safety Members & Probation Officers

| Service | Number | Monthly Allowance | | |
		Basic	Cost of Living	Total
Unmodified	82	$ 132,553	$ 22,417	$ 154,970
Option 1	0	0	0	0
Options 2 & 3	4	5,348	312	5,660
Total	86	$ 137,901	$ 22,729	$ 160,630
Disability				
Unmodified	80	$ 73,441	$ 26,559	$ 100,000
Option 1	0	0	0	0
Options 2 & 3	0	0	0	0
Total	80	$ 73,441	$ 26,559	$ 100,000
Beneficiaries				
Total	41	$ 20,023	$ 12,951	$ 32,974
Total	207	$ 231,365	$ 62,239	$ 293,604

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

As of January 1, 1993

MALES

YEARS OF RETIREMENT

PRESENT AGE	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 & OVER	TOTAL
BELOW 45	1 10,097	2 20,693						3 30,790
45 - 49								
50 - 54	22 300,204	4 28,991		1 9,977				27 339,172
55 - 59	27 369,850	17 104,359	2 16,334	1 8,307				47 498,850
60 - 64	50 1,077,863	24 267,523	19 116,035	2 19,839				95 1,481,260
65 - 69	35 653,093	49 626,897	24 193,939	13 81,561	1 8,712			122 1,564,202
70 - 74	7 75,352	34 509,354	48 560,843	25 175,596	1 7,813			115 1,328,958
75 - 79	3 57,962	12 47,694	49 463,482	28 254,043	8 51,887			100 875,068
80 - 84		2 12,785	7 56,575	28 260,163	7 79,736	2 11,902		46 421,161
85 - 89				5 23,771	5 94,320	2 23,598	2 10,859	14 152,548
90 & OVER		1 4,117	1 3,226		3 18,872	1 2,958	1 6,610	7 35,783
TOTAL	145 2,544,421	145 1,622,413	150 1,410,434	103 833,257	25 261,340	5 38,458	3 17,469	576 6,727,792

AVERAGE AGE   69.25
AVERAGE YEARS RETIRED   9.75
AVERAGE RETIREMENT AGE   59.50

TOTAL ANNUAL BENEFIT AND MEMBERSHIP DISTRIBUTION OF RETIRED GENERAL MEMBERS

As of January 1, 1993

FEMALES

PRESENT AGE	YEARS OF RETIREMENT							
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 & OVER	TOTAL
BELOW 45	2 23,133	2 17,415		1 6,788				5 47,336
45 - 49	2 18,814	2 15,011	1 8,336					5 42,161
50 - 54	17 166,536	3 33,868	1 6,332	1 2,256				22 208,992
55 - 59	23 145,205	13 91,254	1 7,122		2 13,939			39 257,520
60 - 64	46 536,925	24 185,122	17 87,154	1 3,592	1 6,675	2 8,898		91 828,366
65 - 69	58 639,402	54 434,390	38 192,007	21 80,773	1 542			172 1,347,114
70 - 74	15 148,434	56 562,069	53 302,557	37 170,770	7 24,271			168 1,208,101
75 - 79	3 55,829	21 147,269	51 370,260	46 254,359	21 98,535			142 926,252
80 - 84	1 4,716	7 27,401	23 141,425	39 209,030	21 91,167	3 14,825		94 488,564
85 - 89		2 5,907	4 15,864	12 60,621	13 63,423	10 34,231		41 180,046
90 & OVER		3 17,165	1 2,212	1 1,149	6 31,444	7 30,862	3 13,309	21 96,141
TOTAL	167 1,738,994	187 1,536,871	190 1,133,269	159 789,338	72 329,996	22 88,816	3 13,309	800 5,630,593

AVERAGE AGE	71.50
AVERAGE YEARS RETIRED	11.25
AVERAGE RETIREMENT AGE	60.25

TOTAL ANNUAL BENEFIT AND MEMBERSHIP DISTRIBUTION OF RETIRED SAFETY AND PROBATION MEMBERS

As of January 1, 1993

MALES AND FEMALES

YEARS OF RETIREMENT

PRESENT AGE	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 & OVER	TOTAL
BELOW 45	3 62,440	2 29,320	2 31,864					7 123,624
45 - 49	4 89,093	3 52,529	6 84,647	6 68,467	1 8,259			20 302,995
50 - 54	18 428,492	7 112,834	9 112,173	5 60,461	5 36,726			44 750,686
55 - 59	17 531,901	14 251,544	10 127,899	7 96,975	1 7,741			49 1,016,060
60 - 64	6 227,090	8 163,285	5 86,469	5 63,016	2 24,240			26 564,100
65 - 69	1 32,439	2 13,642	6 87,790	7 69,897				16 203,768
70 - 74		1 7,544	4 90,893	6 97,098	8 104,437	1 3,741		20 303,713
75 - 79		1 8,689	2 24,771	3 58,345	6 57,388	2 20,204		14 169,397
80 - 84		1 6,704	1 9,986		2 20,931	1 5,195		5 42,816
85 - 89				1 7,940	1 5,235	2 20,630		4 33,805
90 & OVER				1 9,270		1 3,023		2 12,293
TOTAL	49 1,371,455	39 646,091	45 656,492	41 531,469	26 264,957	7 52,793		207 3,523,257

AVERAGE AGE	60.25
AVERAGE YEARS RETIRED	11.25
AVERAGE RETIREMENT AGE	49.00

(vi) PROBABILITIES OF SEPARATION PRIOR TO RETIREMENT
GENERAL MALE MEMBERS

Age	Withdrawal	Ordinary Death	Ordinary Disability	Service	Death While Eligible	Duty Death	Duty Disability	Terminated Vested
20	.1650	.0002	.0000	.0000	.0000	.0001	.0001	.0000
21	.1550	.0002	.0000	.0000	.0000	.0001	.0001	.0000
22	.1450	.0002	.0000	.0000	.0000	.0001	.0001	.0000
23	.1350	.0002	.0000	.0000	.0000	.0001	.0001	.0000
24	.1250	.0002	.0000	.0000	.0000	.0001	.0001	.0000
25	.1200	.0003	.0000	.0000	.0001	.0001	.0001	.0000
26	.1150	.0003	.0000	.0000	.0001	.0001	.0001	.0000
27	.1075	.0003	.0000	.0000	.0001	.0001	.0001	.0000
28	.1000	.0003	.0000	.0000	.0001	.0001	.0001	.0010
29	.0925	.0003	.0000	.0000	.0001	.0001	.0001	.0020
30	.0850	.0004	.0000	.0000	.0002	.0001	.0002	.0045
31	.0800	.0004	.0000	.0000	.0002	.0001	.0002	.0065
32	.0750	.0004	.0000	.0000	.0002	.0001	.0002	.0085
33	.0700	.0004	.0000	.0000	.0002	.0001	.0002	.0110
34	.0650	.0004	.0000	.0000	.0002	.0001	.0002	.0120
35	.0600	.0005	.0001	.0000	.0002	.0001	.0003	.0130
36	.0550	.0005	.0001	.0000	.0002	.0001	.0004	.0135
37	.0510	.0005	.0001	.0000	.0003	.0001	.0005	.0140
38	.0480	.0005	.0001	.0000	.0003	.0001	.0006	.0130
39	.0450	.0006	.0002	.0000	.0003	.0001	.0007	.0120
40	.0430	.0006	.0002	.0000	.0003	.0001	.0008	.0120
41	.0410	.0006	.0002	.0000	.0004	.0001	.0009	.0125
42	.0390	.0007	.0003	.0000	.0004	.0001	.0011	.0130
43	.0360	.0007	.0004	.0000	.0005	.0001	.0012	.0140
44	.0330	.0007	.0005	.0000	.0005	.0001	.0013	.0150
45	.0300	.0008	.0006	.0000	.0006	.0001	.0015	.0165
46	.0280	.0009	.0007	.0000	.0007	.0001	.0016	.0180
47	.0260	.0010	.0008	.0000	.0008	.0001	.0017	.0200
48	.0250	.0011	.0009	.0000	.0010	.0001	.0018	.0180
49	.0240	.0012	.0011	.0000	.0012	.0001	.0019	.0165
50	.0230	.0013	.0013	.0454	.0014	.0001	.0020	.0150
51	.0220	.0014	.0015	.0236	.0016	.0001	.0022	.0140
52	.0210	.0016	.0017	.0245	.0018	.0001	.0024	.0130
53	.0200	.0018	.0019	.0236	.0021	.0001	.0025	.0120
54	.0190	.0020	.0021	.0226	.0024	.0001	.0026	.0110
55	.0180	.0022	.0023	.0542	.0027	.0001	.0028	.0100
56	.0170	.0024	.0025	.0415	.0030	.0001	.0030	.0095
57	.0160	.0026	.0027	.0396	.0033	.0001	.0031	.0085
58	.0150	.0028	.0030	.0500	.0036	.0001	.0032	.0080
59	.0140	.0030	.0033	.0555	.0039	.0001	.0034	.0075
60	.0130	.0032	.0037	.1019	.0041	.0001	.0035	.0070
61	.0120	.0034	.0041	.1235	.0044	.0001	.0037	.0065
62	.0110	.0036	.0045	.3118	.0047	.0001	.0038	.0060
63	.0100	.0038	.0049	.1355	.0050	.0001	.0040	.0055
64	.0100	.0040	.0053	.1793	.0053	.0001	.0042	.0050
65	.0100	.0042	.0057	.2889	.0056	.0001	.0000	.0000
66	.0100	.0045	.0061	.2262	.0059	.0001	.0000	.0000
67	.0100	.0048	.0066	.2048	.0062	.0001	.0000	.0000
68	.0100	.0051	.0071	.2985	.0066	.0001	.0000	.0000
69	.0100	.0054	.0076	.4048	.0070	.0001	.0000	.0000
70	.0000	.0000	.0000	.8730	.0000	.0000	.0000	.0000

PROBABILITIES OF SEPARATION PRIOR TO RETIREMENT
GENERAL FEMALE MEMBERS

Age	Withdrawal	Ordinary Death	Ordinary Disability	Service	Death While Eligible	Duty Death	Duty Disability	Terminated Vested
20	.1725	.0001	.0000	.0000	.0000	.0001	.0001	.0000
21	.1650	.0001	.0000	.0000	.0000	.0001	.0001	.0000
22	.1575	.0001	.0000	.0000	.0000	.0001	.0001	.0000
23	.1475	.0001	.0000	.0000	.0000	.0001	.0001	.0000
24	.1375	.0001	.0000	.0000	.0000	.0001	.0001	.0000
25	.1325	.0001	.0001	.0000	.0001	.0001	.0001	.0000
26	.1300	.0001	.0001	.0000	.0001	.0001	.0001	.0000
27	.1250	.0002	.0001	.0000	.0001	.0001	.0001	.0040
28	.1200	.0002	.0001	.0000	.0001	.0001	.0001	.0060
29	.1150	.0002	.0001	.0000	.0001	.0001	.0001	.0080
30	.1100	.0002	.0001	.0000	.0001	.0001	.0001	.0100
31	.1050	.0002	.0001	.0000	.0001	.0001	.0001	.0120
32	.1000	.0002	.0002	.0000	.0001	.0001	.0001	.0140
33	.0950	.0002	.0002	.0000	.0001	.0001	.0001	.0160
34	.0910	.0002	.0002	.0000	.0001	.0001	.0001	.0170
35	.0870	.0003	.0003	.0000	.0001	.0001	.0002	.0180
36	.0820	.0003	.0003	.0000	.0001	.0001	.0002	.0180
37	.0760	.0003	.0003	.0000	.0001	.0001	.0003	.0180
38	.0690	.0003	.0003	.0000	.0001	.0001	.0003	.0180
39	.0620	.0003	.0003	.0000	.0001	.0001	.0004	.0180
40	.0550	.0004	.0004	.0000	.0001	.0001	.0005	.0185
41	.0500	.0004	.0005	.0000	.0001	.0001	.0006	.0190
42	.0450	.0004	.0005	.0000	.0001	.0001	.0007	.0190
43	.0400	.0004	.0007	.0000	.0001	.0001	.0008	.0190
44	.0360	.0004	.0008	.0000	.0001	.0001	.0008	.0190
45	.0320	.0005	.0009	.0000	.0002	.0001	.0009	.0190
46	.0300	.0005	.0010	.0000	.0002	.0001	.0009	.0190
47	.0290	.0005	.0010	.0000	.0002	.0001	.0010	.0185
48	.0280	.0006	.0011	.0000	.0003	.0001	.0011	.0185
49	.0270	.0006	.0012	.0000	.0003	.0001	.0012	.0180
50	.0260	.0006	.0013	.0200	.0004	.0001	.0012	.0175
51	.0250	.0006	.0014	.0120	.0005	.0001	.0013	.0165
52	.0240	.0007	.0015	.0120	.0006	.0001	.0014	.0150
53	.0230	.0008	.0015	.0130	.0007	.0001	.0015	.0130
54	.0220	.0009	.0016	.0130	.0008	.0001	.0016	.0100
55	.0210	.0010	.0017	.0200	.0009	.0001	.0017	.0080
56	.0200	.0011	.0018	.0200	.0010	.0001	.0018	.0060
57	.0190	.0012	.0019	.0250	.0011	.0001	.0018	.0050
58	.0180	.0014	.0021	.0300	.0012	.0001	.0019	.0040
59	.0170	.0016	.0023	.0350	.0013	.0001	.0020	.0040
60	.0165	.0018	.0025	.0600	.0014	.0001	.0021	.0040
61	.0155	.0020	.0027	.0600	.0015	.0001	.0022	.0040
62	.0150	.0022	.0030	.2000	.0016	.0001	.0023	.0040
63	.0150	.0024	.0033	.1500	.0017	.0001	.0024	.0040
64	.0150	.0026	.0036	.1500	.0018	.0001	.0025	.0040
65	.0150	.0028	.0000	.3000	.0020	.0001	.0000	.0000
66	.0150	.0030	.0000	.2500	.0022	.0001	.0000	.0000
67	.0150	.0033	.0000	.2500	.0024	.0001	.0000	.0000
68	.0150	.0036	.0000	.3000	.0026	.0001	.0000	.0000
69	.0150	.0039	.0000	.5000	.0028	.0001	.0000	.0000
70	.0000	.0000	.0000	1.0000	.0000	.0000	.0000	.0000

PROBABILITIES OF SEPARATION PRIOR TO RETIREMENT
SAFETY MEMBERS AND PROBATION OFFICERS

Age	Withdrawal	Ordinary Death	Ordinary Disability	Service	Death While Eligible	Duty Death	Duty Disability	Terminated Vested
20	.0700	.0001	.0000	.0000	.0000	.0001	.0003	.0000
21	.0670	.0001	.0000	.0000	.0000	.0001	.0003	.0020
22	.0640	.0001	.0000	.0000	.0000	.0001	.0003	.0045
23	.0610	.0001	.0000	.0000	.0000	.0001	.0003	.0070
24	.0580	.0001	.0000	.0000	.0000	.0001	.0004	.0095
25	.0550	.0002	.0001	.0000	.0001	.0002	.0006	.0120
26	.0520	.0002	.0001	.0000	.0001	.0002	.0008	.0145
27	.0490	.0002	.0001	.0000	.0001	.0002	.0011	.0165
28	.0450	.0002	.0001	.0000	.0001	.0002	.0014	.0185
29	.0410	.0002	.0001	.0000	.0001	.0002	.0017	.0180
30	.0380	.0002	.0001	.0000	.0001	.0002	.0021	.0175
31	.0350	.0002	.0002	.0000	.0001	.0002	.0025	.0165
32	.0320	.0002	.0003	.0000	.0002	.0002	.0029	.0150
33	.0290	.0002	.0005	.0000	.0002	.0002	.0034	.0130
34	.0270	.0002	.0007	.0000	.0002	.0002	.0039	.0105
35	.0250	.0002	.0009	.0000	.0002	.0002	.0045	.0095
36	.0230	.0002	.0011	.0000	.0003	.0002	.0052	.0090
37	.0210	.0002	.0013	.0000	.0004	.0002	.0059	.0085
38	.0190	.0002	.0015	.0000	.0004	.0002	.0066	.0080
39	.0170	.0002	.0017	.0000	.0005	.0002	.0073	.0075
40	.0150	.0003	.0019	.0000	.0006	.0003	.0080	.0070
41	.0130	.0003	.0021	.0000	.0006	.0003	.0087	.0065
42	.0110	.0003	.0023	.0000	.0006	.0003	.0095	.0060
43	.0090	.0003	.0024	.0000	.0007	.0003	.0103	.0050
44	.0070	.0003	.0024	.0000	.0007	.0003	.0111	.0040
45	.0060	.0004	.0025	.0060	.0008	.0004	.0120	.0035
46	.0050	.0004	.0025	.0080	.0009	.0005	.0129	.0030
47	.0045	.0004	.0026	.0100	.0009	.0006	.0138	.0025
48	.0040	.0005	.0026	.0100	.0010	.0007	.0147	.0020
49	.0040	.0005	.0027	.0099	.0010	.0008	.0156	.0015
50	.0040	.0006	.0027	.0494	.0011	.0009	.0165	.0010
51	.0040	.0007	.0028	.0394	.0012	.0010	.0175	.0008
52	.0040	.0008	.0028	.0392	.0013	.0011	.0185	.0007
53	.0040	.0009	.0029	.0350	.0014	.0012	.0195	.0006
54	.0040	.0010	.0030	.0384	.0015	.0013	.0205	.0005
55	.0000	.0011	.0000	.0992	.0016	.0014	.0000	.0000
56	.0000	.0012	.0000	.0832	.0017	.0015	.0000	.0000
57	.0000	.0013	.0000	.0897	.0018	.0016	.0000	.0000
58	.0000	.0014	.0000	.1677	.0019	.0018	.0000	.0000
59	.0000	.0015	.0000	.5019	.0020	.0020	.0000	.0000
60	.0000	.0000	.0000	1.0000	.0000	.0000	.0000	.0000

(vii) MEMBERS' CONTRIBUTION RATES
GENERAL PLAN 1

Entry Age	Study#1	Study#2
20	2.86 %	2.78 %
21	2.86	2.78
22	2.86	2.78
23	2.87	2.79
24	2.87	2.80
25	2.88	2.80
26	2.88	2.82
27	2.89	2.83
28	2.90	2.84
29	2.91	2.86
30	2.93	2.88
31	2.94	2.89
32	2.96	2.91
33	2.98	2.94
34	3.00	2.96
35	3.02	2.98
36	3.04	3.01
37	3.06	3.04
38	3.09	3.06
39	3.11	3.09
40	3.14	3.12
41	3.17	3.15
42	3.19	3.19
43	3.22	3.22
44	3.25	3.25
45	3.28	3.29
46	3.32	3.33
47	3.35	3.36
48	3.38	3.40
49	3.42	3.44
50	3.45	3.48
51	3.49	3.52
52	3.53	3.57
53	3.57	3.61
54	3.61	3.66
55	3.65	3.70
56	3.69	3.75
57	3.74	3.80
58	3.78	3.85
59 & Over	3.83	3.90

Study #1 - 8-1/2% interest and 5-1/2% inflation assumptions (Current rates)
Study #2 - 8-1/4% interest and 5% inflation assumptions

MEMBERS' CONTRIBUTION RATES

SAFETY

Entry Age	Study#1	Study#2
20	4.18 %	4.11 %
21	4.20	4.14
22	4.23	4.18
23	4.26	4.21
24	4.29	4.25
25	4.32	4.28
26	4.35	4.31
27	4.37	4.35
28	4.40	4.38
29	4.43	4.41
30	4.46	4.45
31	4.49	4.48
32	4.52	4.52
33	4.54	4.55
34	4.57	4.59
35	4.60	4.63
36	4.63	4.66
37	4.66	4.70
38	4.69	4.73
39	4.72	4.77
40	4.75	4.81
41	4.78	4.84
42	4.81	4.88
43	4.84	4.92
44	4.87	4.95
45	4.90	4.98
46	4.93	5.02
47	4.95	5.05
48	4.98	5.09
49 & Over	5.01	5.13

Study #1 - 8-1/2% interest and 5-1/2% inflation assumptions (Current rates)
Study #2 - 8-1/4% interest and 5% inflation assumptions

MEMBERS' CONTRIBUTION RATES

PROBATION

Entry Age	Study#1	Study#2
20	8.35 %	8.22 %
21	8.41	8.29
22	8.47	8.36
23	8.52	8.42
24	8.58	8.49
25	8.64	8.56
26	8.69	8.63
27	8.75	8.69
28	8.80	8.76
29	8.86	8.83
30	8.92	8.90
31	8.97	8.97
32	9.03	9.04
33	9.09	9.11
34	9.15	9.18
35	9.21	9.25
36	9.27	9.32
37	9.33	9.39
38	9.39	9.47
39	9.45	9.54
40	9.51	9.61
41	9.57	9.69
42	9.63	9.76
43	9.69	9.83
44	9.74	9.90
45	9.80	9.97
46	9.85	10.04
47	9.91	10.11
48	9.97	10.18
49 & Over	10.03	10.25

Study #1 - 8-1/2% interest and 5-1/2% inflation assumptions (Current rates)
Study #2 - 8-1/4% interest and 5% inflation assumptions

(viii) ACCOUNTING BALANCE SHEET
As of January 1, 1993

ASSETS

1.	Cash	$ 6,586,062
2.	Contribution receivables	1,008,092
3.	Investment income receivable	5,753,948
4.	Trades receivable	683,533
4.	Securities owned (cost basis)	437,073,938
5.	**Total Assets**	$ 451,105,573

LIABILITIES AND FUND BALANCE

6.	Members' deposit reserve		
	a. Normal contributions	$ 48,737,953	
	b. Cost of living contributions	5,257,551	
	c. Total		$ 53,995,504
7.	Advance reserves		
	a. Current service	49,345,077	
	b. Cost of living	64,143,141	
	c. Total		113,488,217
8.	Current service pension reserve		111,369,121
9.	Annuity reserve		28,973,199
10.	Cost of living reserve		31,167,842
11.	Prior benefit reserve		501,642
12.	Supplemental benefit reserve		12,671,324
13.	Death benefit reserve		1,300,162
14.	Designated reserves		
	a. Contingency reserves	4,221,970	
	b. Health reserves	30,737,228	
	c. Supplemental health	4,665,721	
	d. Interest apportionment	9,029,039	
	e. Special allowance reserves	12,731,319	
	f. Designated liability transfer account	11,222,660	
	g. Prefund health	3,345,637	
	h. Total		75,953,574
12.	Miscellaneous liabilities		21,684,986
13.	**Total Liabilities**		$ 451,105,573

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

Age	GENERAL MEMBERS		SAFETY MEMBERS & PROBATION OFFICERS	
	Study#1	Study #2	Study#1	Study #2
20	.030	.038	.070	.084
21	.033	.042	.074	.090
22	.037	.046	.080	.096
23	.041	.051	.085	.102
24	.045	.056	.091	.108
25	.049	.061	.098	.115
26	.054	.067	.105	.123
27	.059	.073	.112	.131
28	.065	.079	.120	.140
29	.071	.086	.129	.149
30	.077	.093	.138	.159
31	.084	.101	.148	.170
32	.091	.109	.159	.181
33	.098	.117	.170	.194
34	.106	.126	.183	.207
35	.115	.135	.195	.220
36	.123	.145	.209	.235
37	.133	.155	.224	.250
38	.143	.166	.240	.267
39	.153	.178	.258	.285
40	.165	.190	.276	.303
41	.176	.202	.295	.323
42	.189	.216	.316	.344
43	.202	.230	.339	.367
44	.216	.244	.363	.392
45	.231	.260	.390	.418
46	.246	.276	.418	.447
47	.263	.293	.449	.477
48	.280	.311	.481	.510
49	.299	.330	.516	.544
50	.319	.351	.552	.579
51	.339	.371	.590	.616
52	.360	.393	.631	.656
53	.383	.415	.674	.697
54	.407	.439	.719	.739
55	.433	.465	.765	.784
56	.459	.491	.807	.823
57	.487	.518	.852	.864
58	.516	.546	.898	.907
59	.547	.576	.948	.952
60	.579	.607	1.000	1.000
61	.613	.639		
62	.648	.673		
63	.685	.709		
64	.725	.745		
65	.765	.784		
66	.807	.823		
67	.852	.864		
68	.898	.907		
69	.948	.952		
70	1.000	1.000		

Study #1 = 8.50% interest with salary scale of merit and longevity plus 5.50% for inflation.
Study #2 = 8.25% interest with salary scale of merit and longevity plus 5.00% for inflation.

(x) YEARS OF LIFE EXPECTANCY AFTER SERVICE RETIREMENT
GENERAL AND SAFETY MEMBERS AND PROBATION OFFICERS

Age	Male	Female	Age	Male	Female
50	28.30	33.97	80	7.21	9.63
51	27.42	33.03	81	6.91	9.09
52	46.55	32.10	82	6.43	8.57
53	25.68	31.16	83	6.07	8.06
54	24.82	30.23	84	5.73	7.58
55	23.97	29.31	85	5.41	7.11
56	23.13	28.39	86	5.10	6.66
57	22.29	27.48	87	4.82	6.23
58	21.46	26.57	88	4.54	5.81
59	20.64	25.67	89	4.28	5.40
60	19.83	24.78	90	4.04	5.02
61	19.02	23.89	91	3.80	4.66
62	18.23	23.01	92	3.58	4.31
63	17.45	22.15	93	3.37	3.98
64	16.69	21.28	94	3.16	3.67
65	15.95	20.43	95	2.98	3.37
66	15.23	19.59	96	2.80	3.10
67	14.52	18.76	97	2.62	2.84
68	13.84	17.94	98	2.45	2.59
69	13.18	17.13	99	2.28	2.36
70	12.54	16.34	100	2.11	2.14
71	11.92	15.56	101	1.95	1.93
72	11.31	14.81	102	1.78	1.74
73	10.72	14.08	103	1.61	1.55
74	10.15	13.37	104	1.43	1.37
75	9.60	12.69	105	1.26	1.19
76	9.08	12.03	106	1.09	1.03
77	8.57	11.39	107	0.92	0.87
78	8.10	10.78	108	0.74	0.71
79	7.64	10.20	109	0.54	0.50

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

(xi) YEARS OF LIFE EXPECTANCY AFTER DISABILITY RETIREMENT
GENERAL MEMBERS

Age	Male & Female	Age	Male & Female	Age	Male & Female
20	38.73	50	21.08	80	7.00
21	37.98	51	20.59	81	6.63
22	37.26	52	20.11	82	6.27
23	36.56	53	19.63	83	5.94
24	35.87	54	19.13	84	5.63
25	35.19	55	18.68	85	5.34
26	34.53	56	18.21	86	5.06
27	33.87	57	17.75	87	4.80
28	33.23	58	17.29	88	4.55
29	32.60	59	16.83	89	4.31
30	31.98	60	16.37	90	4.09
31	31.37	61	15.91	91	3.87
32	30.76	62	15.45	92	3.66
33	30.17	63	14.99	93	3.46
34	29.58	64	14.53	94	3.26
35	29.00	65	14.07	95	3.07
36	28.43	66	13.60	96	2.89
37	27.87	67	13.13	97	2.71
38	27.31	68	12.66	98	2.54
39	26.76	69	12.18	99	2.37
40	26.21	70	11.70	100	2.20
41	25.67	71	11.21	101	2.04
42	25.14	72	10.72	102	1.88
43	24.61	73	10.22	103	1.72
44	24.09	74	9.73	104	1.55
45	23.57	75	9.24	105	1.38
46	23.06	76	8.76	106	1.21
47	22.56	77	8.28	107	1.04
48	22.06	78	7.83	108	0.88
49	21.57	79	7.41	109	0.71
				110	0.50

1981 Disability Table

YEARS OF LIFE EXPECTANCY AFTER DISABILITY RETIREMENT
SAFETY MEMBERS AND PROBATION OFFICERS

Age	Male & Female	Age	Male & Female	Age	Male & Female
20	49.29	50	23.59	80	7.00
21	48.39	51	22.80	81	6.63
22	47.48	52	22.03	82	6.27
23	46.58	53	21.26	83	5.94
24	45.68	54	20.50	84	5.63
25	44.79	55	19.77	85	5.34
26	43.89	56	19.06	86	5.06
27	43.01	57	18.40	87	4.80
28	42.12	58	17.78	88	4.55
29	41.24	59	17.20	89	4.31
30	40.36	60	16.64	90	4.09
31	39.48	61	16.11	91	3.87
32	38.61	62	15.59	92	3.66
33	37.74	63	15.08	93	3.46
34	36.88	64	14.58	94	3.26
35	36.02	65	14.09	95	3.07
36	35.16	66	13.61	96	2.89
37	34.31	67	13.13	97	2.71
38	33.45	68	12.66	98	2.54
39	32.61	69	12.18	99	2.37
40	31.77	70	11.70	100	2.20
41	30.93	71	11.21	101	2.04
42	30.09	72	10.72	102	1.88
43	29.26	73	10.22	103	1.72
44	28.43	74	9.73	104	1.55
45	27.61	75	9.24	105	1.38
46	26.80	76	8.76	106	1.21
47	25.98	77	8.28	107	1.04
48	25.18	78	7.83	108	0.88
49	24.38	79	7.41	109	0.71
				110	0.50

1981 Disability Table

ACTUARIAL TERMINOLOGY

The actuarial terminology in this appendix is presented for general purposes only.

Core Terms

Actuarial Cost Methods

Supplemental Glossary

GENERAL GLOSSARY

Accrued Benefit or Accumulated Plan Benefit	The amount of an individual's benefit (whether or not vested) as of a specified date, determined in accordance with the terms of a pension plan and based on compensation (if applicable) and service to that date.
Accumulated Benefit Obligation	The actuarial present value of benefits (whether vested or nonvested) attributed by the pension benefit formula to employee service rendered before a specified date and based on employee service and compensation (if applicable) prior to that date. The accumulated benefit obligation differs from the projected benefit obligation in that it includes no assumption about future compensation levels. See also definition of accumulated plan benefits.
Actuarial Accrued Liability, Actuarial Liability, Accrued Liability, or Actuarial Reserve	That portion, as determined by a particular actuarial cost method, of the actuarial present value of pension plan benefits and expenses which is not provided for by future normal costs. Note: The presentation of an actuarial accrued liability should be accompanied by reference to the actuarial cost method used; for example, by hyphenation ("actuarial accrued liability — XYZ," where XYZ denotes the actuarial cost method) or by a footnote.
Actuarial Assumptions	Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; changes in compensation and national pension benefits; rates of investment earnings and asset appreciation or depreciation; procedures used to determine the actuarial value of assets; characteristics of future entrants for open group actuarial cost methods; and other relevant items.
Actuarial Cost Method or Funding Method	A procedure for determining the actuarial present value of pension plan benefits and expenses and for developing an actuarially equivalent allocation of such value to time periods, usually in the form of a normal cost and an actuarial accrued liability. Note: An actuarial cost method is understood to be a closed group actuarial cost method unless otherwise stated.
Actuarial Gain (Loss) or Experience Gain (Loss)	A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Note 1: The effect on the actuarial accrued liability and/or the normal cost resulting from changes in the actuarial assumptions, the actuarial cost method or pension plan provisions should be described as such, not as an actuarial gain (loss).

Note 2: The manner in which the actuarial gain (loss) affects future normal cost and actuarial accrued liability allocations depends upon the particular actuarial cost method used.

Actuarial Present Value

The value, as of a specified date, of an amount or series of amounts payable or receivable thereafter, with each amount adjusted to reflect

(a) the time value of money (through discounts for interest) and

(b) the probability of payment (by means of decrements for events such as death, disability, withdrawal, or retirement) between the specified date and the expected date of payment.

Actuarial Valuation

The determination, as of a valuation date, of the normal cost, actuarial accrued liability, actuarial value of assets, and related actuarial present values for a pension plan.

Actuarial Value of Assets or Valuation Assets

The value of cash, investments, and other property belonging to a pension plan, as used by the actuary for the purpose of an actuarial valuation.

Note: The statement of actuarial assumptions should set forth the particular procedures used to determine this value.

Actuarially Determined Contribution Requirements

Amounts required to be paid annually to a pension fund, based on an actuarial cost method or funding method.

Actuarially Equivalent

Of equal actuarial present value, determined as of a given date with each value based on the same set of actuarial assumptions.

Aggregate Actuarial Cost Method

A method under which the excess of the actuarial present value of projected benefits of the group included in an actuarial valuation over the actuarial value of assets is allocated on a level basis over the earnings or service of the group between the valuation date and assumed exit. This allocation is performed for the group as a whole, not as a sum of individual allocations. That portion of the actuarial present value allocated to a valuation year is called the normal cost. The actuarial accrued liability is equal to the actuarial value of assets.

Note 1: The description of this method should state the procedures used, including:

(a) whether the allocation is based on earnings or service;

(b) how aggregation is used in the calculation process, and

(c) a description of any other method used to value a portion of the pension plan's benefits.

Note 2: Under this method, the actuarial gains (losses), as they occur, reduce (increase) future normal costs.

Amortization Payment

That portion of the pension plan contribution designed to pay interest on and to amortize the unfunded actuarial accrued liability or the unfunded frozen actuarial accrued liability.

Attained Age Actuarial Cost Method

A method under which the excess of the actuarial present value of projected benefits over the actuarial accrued liability in respect of each individual in an actuarial valuation is allocated on a level basis over the earnings or service of the individual between the valuation date and assumed exit. The portion of this actuarial present value allocated to a valuation year is called the normal cost. The actuarial accrued liability is determined using the unit credit actuarial cost method.

Note 1: The description of this method should state the procedures used, including:

(a) whether the allocation is based on earnings or service;

(b) where aggregation is used in the calculation process; and the pension plan's benefits.

Note 2: Under this method, the actuarial gains (losses), as they occur, reduce (increase) the unfunded actuarial accrued liability.

Note 3: The differences which regularly arise between the normal cost under this method and the normal cost under the unit credit actuarial cost method will affect the determination of future actuarial gains (losses).

Covered Payroll (Compensation)

The term covered payroll refers to all compensation paid to active employees covered by the retirement system on which contributions are based. Covered payroll may also be referred to as "covered compensation."

Defined Benefit Pension Plan

A pension plan that defines an amount of pension benefit to be provided, usually as a function of one

or more factors such as age, years of service, or compensation.

Defined Contribution Pension Plan

A plan that provides pension benefits in return for services rendered provides an individual account for each participant, and specifies how contributions to the individual's account are to be determined instead of specifying the amount of benefits the individual is to receive Under a defined contribution pension plan, the benefits a participant will receive depend solely on the amount contributed to the participant's account, the returns earned on investments of those contributions, and forfeitures of other participants' benefits that may be allocated to such participant's account.

Entry Age Actuarial Cost Method or Entry Age Normal Actuarial Cost Method

A method under which the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age(s). The portion of this actuarial present value allocated to a valuation year is called the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is called the actuarial accrued liability.

Note 1: The description of this method should state the procedures used, including:
(a) whether the allocation is based on earnings or service;
(b) where aggregation is used in the calculation process;
(c) how entry age is established;
(d) what procedures are used when different benefit formulas apply to various periods of service; and
(e) a description of any other method used to value a portion of the pension plan's benefits.

Note 2: Under this method, the actuarial gains (losses), as they occur, reduce (increase) the unfunded actuarial accrued liability.

Final Average Salary

The amount used to calculate benefits in a plan that bases benefits on the employee's compensation over a specified number of years near the end of the employee's service period or on the employee's highest compensation periods. For example, a plan might provide annual pension benefits equal to 1 percent of the employee's average salary for the last five years (or

Frozen Actuarial Accrued Liability or Frozen Actuarial Liability

the highest consecutive five years) for each year of service. A final-pay plan is a plan with such a formula.

That portion of the actuarial present value of projected benefits which is separated as of a valuation date and frozen under certain actuarial cost methods. Generally, this separated portion is the sum of an initial unfunded actuarial accrued liability and any increments or decrements in the actuarial accrued liability established subsequently as a result of changes in pension plan benefits or actuarial assumptions.

Frozen Attained Age Actuarial Cost Method

A method under which the excess of the actuarial present value of projected benefits of the group included in an actuarial valuation, over the sum of the actuarial value of assets plus the unfunded frozen actuarial accrued liability, is allocated on a level basis over the earnings or service of the group between the valuation date and assumed exit. This allocation is performed for the group as a whole, not as a sum of individual allocations. The frozen actuarial accrued liability is determined using the unit credit actuarial cost method. The portion of this actuarial present value allocated to a valuation year is called the normal cost.

Note 1: The description of this method should state the procedures used, including:

(a) whether the allocation is based on earnings or service;

(b) how aggregation is used in the calculation process; and

(c) a description of any other method used to value a portion of the pension plan's benefits.

Note 2: Under this method, the actuarial gains (losses), as they occur, reduce (increase) future normal costs.

Frozen Entry Age Actuarial Cost Method

A method under which the excess of the actuarial present value of projected benefits of the group included in an actuarial valuation, over the sum of the actuarial value of assets plus the unfunded frozen actuarial accrued liability, is allocated on a level basis over the earnings or service of the group between the valuation date and assumed exit. This allocation is performed for the group as a whole, not as a sum of individual allocations. The frozen actuarial accrued liability is determined using the entry age actuarial cost method. The portion of this actuarial present value allocated to a valuation year is called the normal cost.

Note 1: The description of this method should state the procedures used, including:

(a) whether the allocation is based on earnings or service;

(b) how aggregation is used in the calculation process; and

(c) a description of any other method used to value a portion of the pension plan's benefits.

Note 2: Under this method, the actuarial gains (losses), as they occur, reduce (increase) future normal costs.

Funded Pension Plan

One in which contributions are made and assets are accumulated to pay benefits to potential recipients before cash payments to recipients are actually required.

Funding Policy

The policy for the amounts and timing of contributions to be made by the employer(s), participants, and any other sources to provide the benefits a pension plan specifies.

Individual Level Actuarial Cost Method or Individual Level Premium Actuarial Cost Method

A method under which the actuarial present value of each increment of an individual's projected benefits is allocated on a level basis over the future earnings or service of the individual between the age at which such increment is first recognized and the exit age(s). The portion of this actuarial present value allocated to a valuation year is called the normal cost. Each individual's portion of the actuarial accrued liability should be determined on a consistent basis, usually as the retrospective accumulation of the individual's prior actuarial accrued liability and prior normal cost, using the valuation actuarial assumptions.

Note 1: The description of this method should state the procedures used, including:

(a) whether the allocation is based on earnings or service; and

(b) a description of any other method used to value a portion of the pension plan's benefits.

Note 2: Under this method, actuarial gains (losses), as they occur, result in amortization credits (debits) which offset (supplement) normal cost. Increases (decreases) in projected benefits from one valuation date to the next usually produce normal cost increments (decrements) rather than actuarial losses (gains).

| Individual Spread Gain Actuarial Cost Method or Individual Aggregate Actuarial Cost Method | A method under which the actuarial present value of each increment of an individual's projected benefits is allocated on a level basis over the future earnings or service of the individual between the age at which such increment is first recognized and the exit age(s). The portion of this actuarial present value allocated to a valuation year is called the normal cost. The actuarial value of assets is deemed to be assigned to individuals on a reasonable and consistent basis; for example, each individual's share may be the accumulation of his (her) prior normal costs and any prior actuarial gains (losses) allocated to the individual. Actuarial gains (losses) are allocated to individuals in proportion to the assigned actuarial value of assets, or on any other reasonable and consistent basis. The actuarial accrued liability for an individual equals the assigned portion of the actuarial value of assets.

Note 1: The description of this method should state the procedures used, including:
(a) whether the allocation is based on earnings or service; and
(b) a description of any other method used to value a portion of the pension plan's benefits.

Note 2: Under this method, the actuarial gains (losses), as they occur, reduce (increase) future normal costs.

Note 3: This method has the effect of applying the aggregate actuarial cost method separately for each individual. |
Interest Rate	The rate used to adjust a series of future payments to reflect the time value of money.
Nonemployer Contributor	An entity that makes contributions to a retirement system to provide pension benefits to employees of another entity. That is, employees of one governmental entity may be covered by a retirement system but the annual "employer" contribution may be paid directly by another entity. For example, a state may make the employer's pension contribution for school districts in the state.
Normal Cost or Normal Actuarial Cost	That portion of the actuarial present value of pension plan benefits and expenses allocated to a valuation year by the actuarial cost method.

Note 1: The presentation of normal cost should be accompanied by reference to the actuarial cost method used.

Note 2: Any payment In respect of an unfunded actuarial accrued liability is not part of normal cost (see amortization payment).

Note 3: For pension plan benefits which are provided in part by employee contributions, normal cost refers to the total of employee contributions and employer normal cost unless otherwise specifically stated.

One-Year Term Cost
: The actuarial present value, as of a valuation date, of all benefits expected to become payable in the future as a result of an event or events expected to occur during a valuation year.

Open Group/Closed Group
: Terms used to distinguish between two classes of actuarial cost methods. Under an open group actuarial cost method, actuarial present values associated with expected future entrants are considered; under a closed group actuarial cost method, actuarial present values associated with future entrants are not considered.

Pay-as-You-Go
: A method of financing a pension plan under which the contributions to the plan are generally at about the same time and in about the same amount as benefit payments and expenses becoming due.

Pension Benefit Obligation
: The standardized measure of funding status and progress required to be disclosed pursuant to GASB #5 statement. It is the actuarial present value (APV) of credited projected benefits, prorated on service, and discounted at a rate equal to the expected return on present and future plan assets.

Pension Obligation
: *Pension obligation* is a generic term for that portion of the APV of total projected benefits estimated to be payable in the future as a result of employee service to date, with the portion attributable to credited service to date calculated with or without projected salary increases. Stated differently, it-is benefits attributable to
(a) retirees, beneficiaries, and terminated employees entitled to benefits and
(b) current covered employees, as a result of their credited service to date.

Projected Benefit Obligation
: As used in FASB Statement 87, the projected benefit obligation is the actuarial present value as of a date of all benefits attributed by the pension benefit formula to

employee service rendered prior to that date. The projected benefit obligation is measured using assumptions as to future compensation levels if the pension benefit formula is based on those future compensation levels (pay-related, final-pay, final-average pay, or career-average-pay plans).

Projected Benefits

Those pension plan benefit amounts expected to be paid at various future times under a particular set of actuarial assumptions, taking into account such items as the effect of advancement in age and past and anticipated future compensation and service credits. That portion of an individual's projected benefit allocated to service to date, determined in accordance with the terms of a pension plan and based on future compensation as projected to retirement, is called the credited projected benefit.

Projection Actuarial Cost Method or Forecast Actuarial Cost Method

A method under which the excess of the actuarial present value of the sum of projected benefit payments for a specified period plus a funding objective as of the end of the period over the actuarial value of assets is allocated on a level basis over the earnings or service of the group during the specified period, including earnings or service for any future entrants assumed. The allocation is performed for the group as a whole, not as a sum of individual allocations. The portion of this actuarial present value allocated to a valuation year is called the "annual cost allocation."

Note 1: The description of this method should:
(a) explain the funding objective, and describe any anticipated benefit increases which have been taken into account;
(b) specify the period involved, and any scheduled changes to that period for future valuations;
(c) state the procedure used to allocate the excess and whether the allocation is based on earnings or service; and
(d) state the actuarial cost method to be used to determine future allocations when the end of the specified period is reached.

Note 2: The funding objective will usually be expressed as the actuarial accrued liability as projected to exist under another actuarial cost method at the end of the specified period.

Note 3: Under this method, actuarial gains (losses), as they occur, reduce (increase) the annual cost allocation.

	Note 4: Only a projection actuarial cost method with an open group assumption should be so labeled; if an open group assumption is used with any other actuarial cost method, the method should be named and the open group assumption described.
Required Supplementary Information	Required supplementary information consists of statements, schedules, statistical data, or other information that GASB has determined to be necessary to supplement, although not required to be a part of, the general purpose financial statements.
Standardized Measure	See Pension benefit obligation.
Step-rate Benefit Formula	These formulas, also known as "variable-rate formulas ' define benefits by applying different salary or dollar factors to different years of credited service.
Terminal Funding	A method of funding a pension plan under which the entire actuarial resent value of benefits for each individual is contributed to the plan's fund at the time of withdrawal, retirement or benefit commencement.
Unfunded Actuarial Accrued Liability, Unfunded Actuarial Liability, Unfunded Accrued Liability, or Unfunded Actuarial Reserve	The excess of the actuarial accrued liability over the actuarial value of assets.
	Note: This value may be negative, in which case it may be expressed as a negative unfunded actuarial accrued liability, the excess of the actuarial value of assets over the actuarial accrued liability, or the funding excess.
Unfunded Frozen Actuarial Accrued Liability or Unfunded Frozen Actuarial Liability	The portion of the frozen actuarial accrued liability remaining after the addition of interest and the deduction of amortization payments.
Unfunded Pension Plan	Defined benefit pension arrangements in which no contributions are made from any source before benefits are actually paid to retirees and other beneficiaries.
Unit Credit Actuarial Cost Method	A method under which the benefits (projected or unprojected) of each individual included in an actuarial valuation are allocated by a consistent formula to valuation years. The actuarial present value of benefits allocated to a valuation year is called the normal cost. The actuarial present value of benefits allocated to all periods prior to a valuation year is called the actuarial accrued liability.
	Note 1: The description of this method should state the procedures used, including:
	(a) how benefits are allocated to specific time periods;

x

(b) the procedures used to project benefits, *if* applicable; and

(c) a description of any other method used to value a portion of the pension plan's benefits.

Note 2: Under this method, the actuarial gains (losses), as they occur, generally reduce (increase) the unfunded actuarial accrued liability.