# CITY OF SAN JOSE Police and Fire Department Retirement Plan

# **ACTUARIAL VALUATION REPORT**

# As of June 30, 1995

Prepared by William M. Mercer, Incorporated

October, 1995



October 19, 1995

Board of Administration City of San Jose Police and Fire Department Retirement Plan 801 North First Street, Room 216 San Jose, CA 95110

Dear Members of the Board:

We are pleased to present the actuarial valuation for the City of San Jose Police and Fire Department Retirement Plan prepared as of June 30, 1995 by William M. Mercer, Incorporated. The report includes:

- (1) a determination of the city contribution rates under the current and recommended actuarial methods and assumptions;
- (2) a determination of the employee contribution rates under the current and recommended actuarial methods and assumptions.

This report conforms with the requirements of the governing state and local statutes, accounting rules, and generally accepted actuarial principles and practices.

We look forward to presenting this report to the Board at your earliest convenience.

And James ha

Drew James, FSA, MAAA Principal

Paul Angelo, FSA, MAAA Consultant

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## **TABLE OF CONTENTS**

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### <u>Page</u>

BOARD MEMBER SUMMARY OF VALUATION RESULTS
SUMMARY OF RECOMMENDATIONS
SUMMARY OF SIGNIFICANT ACTUARIAL STATISTICS AND MEASURES
EXPLANATION OF CHANGES IN ACTUARIAL VALUES
ACTUARIAL ASSUMPTIONS
ECONOMIC ACTUARIAL ASSUMPTIONS7
NONECONOMIC ACTUARIAL ASSUMPTIONS
ACTUARIAL VALUATION METHODS
ACTUARIAL FUNDING METHOD
ACTUARIAL VALUE OF ASSETS
ACTUARIAL VALUATION RESULTS
EMPLOYER AND MEMBER CONTRIBUTION RATES
FUNDING STATUS
EVALUATION OF FUNDING STATUS
ACTUARIAL BALANCE SHEET
ACTUARIAL BALANCE SHEET 42
SYSTEM ASSETS
System Assets
APPENDICES

# **BOARD MEMBER SUMMARY OF**

# **VALUATION RESULTS**

# SUMMARY OF RECOMMENDATIONS

City Contribution Rates	June 30, 1993	June 30, 1995	Increase/ (Decrease)
Normal Cost Rate:	19.98%	21.35%	7%
Rate of Contribution to Unfunded Actuarial Accrued Liability:	.09%	(1.43%)	
Medical Insurance:	1.72%	1.24%	(28%)
Dental Insurance:	.45%	.45%	0%
Total City Rate:	22.24%	21.61%	(3%)
Estimated Annual Amount:*	\$24,285,000	23,597,000	(3%)

Employee Contribution Rates	June 30, 1993	June 30, 1995	Increase/ (Decrease)
Normal Cost Rate:	7.49%	8.01%	7%
Rate of Contribution to Unfunded Actuarial Accrued Liability:	0.00%	0.00%	0%
Medical Insurance:	1.72%	1.24%	(28%)
Dental Insurance:	.15%	.15%	0%
Total Employee Rate:	9.36%	9.40%	0%
Estimated Annual Amount:*	\$10,221,000	\$10,264,000	0%

\* Based on July 1, 1995 payroll of \$109,196,000.

Actuarial Assumptions	June 30, 1993	June 30, 1995	Increase/ (Decrease)
Annual Inflation Rate:	5.0%	5.0%	0%
Annual Investment Return:	8.0%	8.0%	0%
Annual Salary Increases:			
First 5 years of service	10.0%	11.0%	10%
After 5 years of service			
Ages 25-29	8.5%	9.5%	12%
Ages 30-34	7.0%	8.0%	14%
Ages 35-39	6.5%	6.5%	0%
Ages 40-44	6.0%	6.1%	2%
Ages 45-49	6.0%	5.9%	(2%)
Ages 50-55	5.5%	5.7%	4%
Ages 55-59	5.5%	5.5%	0%
Ages 60 and over	5.0%	5.1%	2%

Other assumptions are based upon the June 30, 1995 experience analysis.

# SUMMARY OF SIGNIFICANT ACTUARIAL STATISTICS AND MEASURES

	June 30, 1993	June 30, 1995	Increase/ (Decrease)
Association Membership			-
Active Members			
1. Number of Members	1,785	1,812	2%
2. Total Active Payroll	\$98,831,000	\$109,196,000	10%
3. Average Monthly Salary	\$4,614	\$5,022	9%
Retired Members			
1. Number of Members:			
Service Retirement	115	159	38%
Beneficiaries	468	514	10%
2. Total Retired Pavroll	117	151	29%
3. Average Monthly	\$19,390,000	\$25,582,000	32%
Pension	\$2,308	\$2,587	12%
Inactive Vested Members			
1. Number of Members	28	29	4%
Asset Values			
Market Value	\$792,354,000	\$949,453,000	20%
Actuarial Value Book Value	\$721,229,000	\$864,823,000	20%
Book Value	\$750,149,000	\$800,820,000	19%
Liability Values			
Actuarial Accrued Liability Unfunded Actuarial	\$722,760,000	\$839,148,000	16%
Accrued Liability (UAAL)	\$1,531,000	(\$25,675,000)	
Pension Benefit Obligation	\$719,519,000	\$853,397,000	19%
Unfunded Pension Benefit			
Obligation	(\$10,630,000)	(\$13,429,000)	
Funding Ratios			
GASB No. 5 Actuarial Assets/Actuarial	101.5%	101.6%	0%
Accrued Liability	99.8%	103.1%	3%

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## **EXPLANATION OF CHANGES IN ACTUARIAL VALUES**

### **City Contribution Rates**

The components of the change in city contribution rates are approximately as follows:

Cur	rent Rate	22.24%
Ass	umption Changes	
•	Salary Scale Change	.42%
•	Other Pre-retirement Assumptions	(.64%)
	Post-retirement Assumptions	<u>.63%</u>
	Subtotal	22.65%
Act	uarial Experience	
٠	Investment (gains)/losses	(.15%)
٠	Salary (gains)/losses	(.46%)
•	Change in medical trends	(.48%)
•	Other miscellaneous changes	<u>.05%</u>
Rev	rised Rate:	21.61%
Em	ployee Contribution Rates	
Cur	rent Rate	9.36%
•	Salary Scale Change	.15%
•	Other Pre-retirement Assumptions	(.12%)
•	Post-retirement Assumptions	<u>.11%</u>
	Subtotal	9.50%
Acti	uarial Experience	
•	Change in medical trends	(.48%)
•	Interest adjustment	.30%
•	Other miscellaneous changes	.08%
Rev	ised Rate:	9.40%

Actuarial Assumptions: The following assumptions were modified as a result of the experience investigation.

- Salary increase assumption about 1% per year higher increases
- Withdrawal slightly higher rates of withdrawal
- Service retirement substantially higher rates of retirement
- Vested termination somewhat higher rates of termination
- Duty disability substantially lower rates of disability
- Ordinary disability somewhat higher rates of disability
- Post-disability retirement mortality somewhat higher rates of death

More detail on these changes is provided in the various sections of the report dealing with each of the above items.

# **ACTUARIAL ASSUMPTIONS**

## **ECONOMIC ACTUARIAL ASSUMPTIONS**

#### A. Introduction

The economic actuarial assumptions were recommended to the Board in our experience analysis dated September 26, 1995, and were adopted by the Board on October 5, 1995. Economic actuarial assumptions are of three types:

- 1. *Inflation.* Results in increases in future prices of goods and services. Inflationary increases are closely tied to member salary increases, retiree costof-living increases and the returns that investors demand from securities markets and other investments. For those reasons the inflation assumption underlies all economic actuarial assumptions. This assumption also determines the rate at which payments to the Unfunded Actuarial Accrued Liability increase each year.
- 2. *Investment Return*. Has a powerful influence on a retirement system's cost to employers and members. The more money earned from investments, the less needs to be contributed. Assuming a typical new member's pension is funded over a 25-year career and that the member receives pension checks for 20 years after retirement, a 1% higher rate of investment return will reduce required contributions by about 20% (all else remaining equal). For this reason, setting the investment return assumption is an important decision.
- 3. *Salary Increases.* Have a significant impact on determining the benefit that members will receive at retirement. This assumption contains two components -- cost-of-living (inflation) plus pay raises that members receive as a result of promotions and step increases.

#### B. Setting Economic Assumptions

The Actuarial Standards Board recently issued an exposure draft entitled "Selection of Economic Assumptions for Measuring Pension Obligations". This proposed Actuarial Standard of Practice (SOP) is designed to provide pension actuaries guidance in their setting of economic assumptions. Section 5.4 provides the following general steps for selecting economic assumptions for a specific measurement:

- 1. Identify components, if any, of each assumption and evaluate relevant data;
- 2. Develop a best-estimate range for each economic assumption required for the measurement;
- 3. Evaluate additional measurement-specific factors and provide for adverse deviation, if appropriate; and
- 4. Select a specific point, ordinarily within the best-estimate range, where needed, based on 2. and 3. above.

After completing these steps for each assumption, the actuary should review the set of economic assumptions for reasonableness and consistency and make any needed changes.

The relevant data referred to in step 1 should consist of appropriate historical and current economic data. In Section 5.3, the proposed SOP recommends that the actuary consider current economic data, "however, the actuary should emphasize appropriate future long-term expectations rather than to give undue weight to recent past experience."

The remainder of this Section provides the analytical development of the economic assumptions.

C. Inflation

#### **Recommendation**

We recommend and the Board has adopted a long-term inflation assumption of 5%.

#### Setting the assumption

The rate of inflation has varied significantly over time. The following chart shows the annual increases in the Consumer Price Index over the last 50 years:



Inflation is difficult to predict, even in the short-term. To accurately pinpoint this or any other assumption is impossible. In general, the lower the inflation assumption (with certain limits) the more conservative the resulting set of economic assumptions will be, all else remaining equal. The following guideline is therefore established for setting the inflation assumption: The recommended inflation assumption will be set by giving consideration to long term historical averages, recent trends, surveys of economic forecasts, and assumptions used by similarly situated public and private retirement systems. In order to maximize stability, recent trends will generally receive lesser weight in the process. No margin will be included for conservatism.

The proposed actuarial SOP specifies the following data to be considered in setting the inflation assumption (Section 5.5.1):

- Consumer Price Indices (CPI)
- The Gross Domestic Product Implicit Price Deflator (IPD)
- Forecasts of inflation
- Yields on government securities of various maturities

There is not a significant difference between the CPI and IPD data over the last 50 years, so we will focus on the CPI increases in our analysis.

#### CPI Data

Table 1 provides the annualized increases in the Consumer Price Index for consecutive ten years periods over the last 60 years. The CPI measures price increases in consumer goods.

## Table 1 History of CPI and IPD Increases Ten Year Annualized Averages (1)

<u>CPI</u>
2.86%
4.17%
1.58%
5.20%
- 7.34%
3.58%

(1) CPI data is based upon US All City Average, CPI-U for years after 1979.

CPI increases over the last 60 years have produced an average annual inflation rate of 4.1%. Over the most recent 30 years, the average annual rate is 5.4%. Note that the tenyear period ending December 31, 1984 appears somewhat anomalous. Table 1 data indicates that, with the exception of the ten years ending December 31, 1984, inflation has typically ranged between about 3.0% and 5.0%. The last ten years has produced an inflation rate in this range. Therefore, we conclude that considering both long-term historical economic data (last 60 years) and recent trends (last 30 years and recent 10-year increases), an appropriate inflation rate range is 4% to 5%. It is clear, however, that in the short term, inflation will likely be lower.

## Forecasts of Inflation

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Inflation assumptions used by similarly situated public retirement systems provide a proxy for inflation forecasts. Charts 2 and 3 provide the inflation assumptions used by the 28 California public retirement systems who responded to Mercer's 1994 survey of the economic actuarial assumptions, and the eight chartered city system respondents, respectively.



The average inflation rates from the survey for both of these groups is about 5%.

A recent Society of Actuaries study of public member retirement systems reported that over 75% of Police and Fire retirement systems in the U.S. are using inflation rates of 5% or higher.

#### Treasury Yield Curves

Inflation expectations implicit in Treasury yield curves can vary widely over a relatively short period of time. For example, compare the following yield curve data as of December 31, 1993, December 27, 1994, and September 22, 1995.

	Tab	ole 2	,
Treasury Yield Curve			
	December 31, 1993	December 27, 1994	September 22, 1995
<u>Maturity</u>	Yield	Yield	Yield
90 days	3.01%	5.58%	5.28%
1 year	3.63%	7.23%	5.60%
5 years	5.21%	7.77%	6.00%
10 years	5.83%	7.89%	6.32%
20 years	6.48%	7.87%	6.65%
30 years	6.35%	7.75%	6.56%

Considering that ten to twenty-year Treasury bonds historically have generated 90 to 110 basis points above inflation and that the duration of liabilities under a typical retirement system is 10 to 20 years, we can conclude that annualized inflation expectations over the next 10 to 20 years has increased from a range of 4.75% to 5.5% in December 1993 up to about 6.8% in December 1994 then down to a range of 5.2% to 5.7% in September 1995. This demonstrates that relying too heavily upon such volatile data for setting inflation assumptions for retirement systems can create instability. One might average Treasury yield data over some period of time, however, we question whether utilizing inflation expectations implicit in two- to three-year-old Treasury yields would be meaningful. Also, the usefulness of this data is hampered by the Federal Reserve's use of interest rates as a means of controlling the economy.

#### Summary

We conclude from our analysis that:

- 1. Historical inflation data can generally support an assumption in the range of 4% to 5%;
- 2. Inflation forecasts inherent in inflation assumptions adopted by similarly situated retirement systems are 5.00%; and
- 3. Future inflation expectations implicit in recent Treasury yield curves have been fluctuating significantly over the last 21 months.

Based on this analysis, we are recommending and the Board has adopted no change from the system's current inflation assumption of 5%.

#### D. Investment Return

#### Recommendations

Based on the following analysis, we recommend and the Board has adopted an investment return assumption of 8.00%.

#### .Setting the Assumption

The proposed actuarial SOP specifies the following data be considered in setting the investment return assumption (Section 5.6):

- Forecasts of inflation
- Historical risk-free returns
- Real return or risk premium for each asset class
- Yields to maturity on government securities

The first item has already been addressed in detail. The second item is the historical return on short term Treasury bills, such as 30 days, and is used to develop risk premiums for other asset classes. Our analysis will focus on the third item with some consideration of the fourth.

Section 5.6.3 of the proposed actuarial SOP sets forth the following relevant measurement-specific factors that should be considered in selecting the investment return assumption:

- Investment policy or asset allocation
- Expenses
- Investment manager performance

Each of these items will be addressed in the context of our analysis.

#### Real Rate of Return on Investments

The real rate of return on investments is a function of:

- The real rates of return on individual classes of assets within the investment portfolio;
- The relative proportion of the fund's total investments held in each class of securities (the "Asset Allocation");
- Expenses to be paid from earnings; and
- Reasonable risk (variability) adjustments.

Each of these four components are addressed separately.

Real Returns on Classes of Securities

Empirical studies of total real rates of return are available on most classes of securities in which the System invested. These studies are used as a resource upon which to develop historical average real rates of return. These historical averages are adjusted considering any fundamental changes in the economy, changes in government regulation, and any other factors which might affect the continued applicability of the historical averages.

Many empirical studies have been carried out to measure historical real rates of return on various types of investment. One most frequently referenced is that by Roger Ibbotson and Rex A. Sinquefield, titled, *Stocks, Bonds and Inflation: Simulations of the Future.* Table 3 provides the Ibbotson-Sinquefield measure of the real rates of return between 1926 and 1994. 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.

#### Table 3 Ibbotson - Sinquefield Real Rates of Return of Investments (Geometric Mean)

	<u>(1926 - 1994)</u>
Common Stocks	6.9%
Small Stocks	8.8%
Long-term government bonds	1.7%
Long-term corporate bonds	2.2%
Intermediate government bonds	1.9%
Treasury bills	0.5%

Because this data does not cover some types of investment common in the System's portfolio, Mercer has developed the following more detailed real rate of return assumptions by asset class:

Table 4	-
Expected Asset Class Returns	Net of Inflation (Real)
Asset Class	<u>Total Real Return</u>
Large Stocks (LS) <sup>1</sup>	6.53%
Small Stocks (SS) <sup>2</sup>	8.88%
Int'l Stocks (IS) <sup>3</sup>	6.85%
Long Bonds (LTB) <sup>4</sup>	2.31%
Intermediate Bonds (ITB) <sup>5</sup>	2.19%
Real Estate (RE) <sup>6</sup>	4.82%
Money Market (MM) <sup>7</sup>	0.94%

<sup>1</sup>Large Stocks — S&P 500.

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<sup>2</sup> Small Stocks — 1926-1981 — fifth capitalization quintile of the NYSE; 1981-1991 DF Small Company Fund.

<sup>3</sup>International Stocks — Morgan Stanley Capital International Europe, Australia & Far East Index (EAFE).

<sup>&</sup>lt;sup>4</sup>Long Bonds — a one-government bond portfolio with a maturity near twenty years.

<sup>&</sup>lt;sup>5</sup>Intermediate Bonds — a one-government bond portfolio with a maturity near five years.

<sup>&</sup>lt;sup>6</sup>Real Estate — Study assumption by Mercer Asset Planning, Inc.

<sup>&</sup>lt;sup>7</sup>Money Market — rolling 30-Day U.S. Treasury Bill.

#### Asset Allocation

The System employs a third-party investment consultant to assist in establishing its target asset allocation and investment policy. The target asset allocation reflects the consultant's professional opinion on expected returns, the System's risk profile, prudent diversification, asset/liability matching, cash flow needs and other investment considerations. This target allocation is designed as a guidepost for balancing investments among asset classes. As such, it is the best indicator for the System's actual long-term asset allocation. The target asset allocation will be combined with the real rates of return on classes of securities to develop the expected gross real rate of return assumption for the fund's portfolio.

The current asset allocation utilized by the System is shown in Table 5.

#### Table 5 City of San Jose Police and Fire Department Retirement Plan Asset Allocation At Market Value

	<u>June 30, 1995</u>	Target
Bonds	49%	35%
Bonds - International	6%	10%
Stocks - U.S.	33%	35%
Stocks - International	6%	10%
Real Estate	6%	10%

Applying the target asset allocation (Table 5) to the information in Table 4 results in a real return of approximately 4.5%. 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.

#### Expenses to be Paid from Earnings

The expected gross real rate of return must be reduced to reflect expenses to be charged against investment earnings. To the extent such charges are expected to be made in the future, the expense margin will be sufficient to cover:

- a) Administrative expenses;
- b) Investment expenses;
- c) The cost of actuarial valuations; and
- d) The cost of legal counsel.

An expense percentage of 0.50% was used to estimate future expenses as a percentage of the Actuarial Value of Assets.

#### Risk Adjustment

The net real rate of return assumption will reflect the risk associated with not achieving expectations. This is developed by considering:

- The probability that actual future returns within assets classes will deviate statistically from historical averages;
- The effect that asset diversification will have on dampening statistical fluctuations of future returns; and
- The expectation that fund managers will underperform or outperform the general market indices upon which the real rates of return on individual classes of securities are measured.

Annual real rates of return have varied substantially over the years. For example, even if we expect the averages displayed in Table 4 to be a reasonable estimate of real returns in the future, we know there is some likelihood that future real rates will be more or less than historical averages. The risk lies in setting too high an investment earnings assumption, which leads to future losses and higher employer contributions. The risk adjustment helps protect against such an occurrence.

As an aid in setting an appropriate risk adjustment, Chart 4 presents a distribution diagram developed from Mercer's survey of economic assumptions of 28 California public retirement systems. From this survey we are able to identify implicit risk adjustments incorporated within a system's investment return assumption versus a measure of the system's risk level based upon their current asset allocation. The diagram in Chart 4 provides that relationship. The chart also includes a regression line which, given a system's risk level, can be used to identify a risk adjustment consistent with the survey data. As you can see from the chart, the System's risk adjustment so calculated would be 0.9%.

#### Investment Manager Performance

Section 5.6.3.h. of the proposed actuarial SOP states that:

Few investment managers consistently achieve significant above-market returns net of expenses over long periods. And managers who consistently underperform market indices may be replaced by the (plan fiduciary). Anticipating superior (or inferior) investment manager performance may be unduly optimistic (or pessimistic).

We concur with this statement, thus do not make any provision within our investment return assumption for superior or inferior performance relative to the market. Chart 4

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## Comparison with Similarly Situated Systems

Charts 5 and 6 provide the investment return assumptions used by the 28 California public retirement systems who responded to Mercer's recent survey of the economic actuarial assumptions, and the eight Chartered City respondents, respectively.



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The average investment return rates from the survey for both of these groups is approximately 8.0%.

A recent Society of Actuaries study of public member retirement systems reported that over 62% of police and five retirement systems in the U.S. are using an interest rate assumption of either 7.75% or 8.00%, with about 18% using a rate higher than 8.00%

#### Summary

Based on the above analysis, we arrive at an investment return assumption of 8.1% (using the inflation assumption of 5%). Accordingly, we recommend and the Board has adopted no change from the system's current investment return assumption of 8%..

E. Salary Increase Assumption

#### Recommendations

Based upon the following analysis, we recommend and the Board has adopted that the salary increase assumption will be structured by combining the inflation assumption of 5% with the following real salary increase assumptions:

	<u>Real Salary Increase Assumption</u>
First 5 years of service	6.0%
After 5 years of service	
Age 25-29	4.5%
Age 30-34	3.0%
Age 35-39	1.5%
Age 40-44	1.1%
Age 45-49	0.9%
Age 50-54	0.7%
Age 55-59	0.5%
Age 60 and Over	0.1%

#### Setting the Assumption

The proposed actuarial SOP specifies the following data be considered in setting the salary increase assumption (Section 5.7):

- Employer's current compensation practice and any anticipated changes in this practice;
- Current compensation distributions by service or age;
- Historical compensation increases of employer and other employers in the same industry or geographic area; and
- Historical national wage and productivity increases.

In addition, the proposed SOP states that the actuary should consider employer-specific compensation data, but the actuary must carefully weigh the credibility of this data when selecting the salary increase assumption.

The methodology used to construct the assumption is to utilize the inflation assumption as a base salary increase assumption. There is a sound economic reason for doing this. This is a long term assumption and represents the expected annual increases in the cost of goods and services. In order for an member to maintain the same standard of living in the future as he or she does today, wages must at least keep up with inflation. If they do not, members will suffer a continuously eroding standard of living, which in turn will increase member turnover as workers seek jobs elsewhere that offer more competitive salaries. This creates obvious instability, which may occur for a short while, but eventually will have to return to equilibrium if the City is to continue as an ongoing operating entity.

Once the inflation component of the salary increase assumption is set, the process turns to the selection of the real (inflation-free) salary increase assumption component.

#### Real Salary Increases

In addition to inflation, member salaries are expected to increase due to:

- General increases which exceed inflation ("Real Across-the-Board Salary Increases"); and
- Merit and longevity increases.

#### Real Across-the-Board Salary Increases

These are generally categorized as productivity increases because, in theory, they are generated from any activity that allows workers to produce goods and services more efficiently, thus cheaper. If these efficiencies result in increased revenues to the employer and are passed along as salary increases, Real Across-the-Board Salary Increases will result.

Because of the general nature of governmental employment and the foreseeable budgetary outlook for California governmental employers, there is currently no Real Across-the Board Salary Increase assumption for the System.

We should note that the average salary for active members has increased at an annual rate of 4.3% over the two years ending June 30, 1995. This is about 6% above the annual CPI increase of 2.7% over that period. However, considering our recommended inflation assumption is 5%, we are comfortable maintaining a 0% Real Across-the-Board Salary Increase assumption.

#### Merit and Longevity Salary Increases

Merit and longevity increases reflect the promotional grade increase an individual member is expected to receive over his or her career. This assumption is based on observed experience of real salary increases by category of member by age and/or service group. This assumption is reviewed at the time of the triennial experience investigation.

Following are the nominal annual salary increases received by members over the two years ending June 30, 1995.

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Members with less than 5 years of service: 10.85% Members with 5 or more years of service:

<u>Age Bracket</u>	Annual Increase
25-29	10.45%
30-34	8.25%
35-39	6.24%
40-44	5.49%
45-49	5.30%
50-54	5.20%
55-59	5.11%
60-64	4.74%

The average annual salary increase for active members over this two year period was 4.30%. Netting this from the above nominal increases yields the following real wage increases:

Members with less than 5 years of service: 6.55% Members with 5 or more years of service:

<u>Age Bracket</u>	Annual Increase
25-29	6.15%
30-34	3.95%
35-39	1,94%
40-44	1.19%
45-49	1.00%
50-54	0.90%
55-59	0.81%
60-64	0.44%

In light of this experience, the merit and longevity assumption was modified as detailed at the beginning of this section. The following graph summarizes the current, actual and recommended merit and longevity assumptions.



Using the above assumptions results in about a 2% "spread" between the investment return and salary scale assumption. A recent Society of Actuaries study on public member retirement systems found that this spread was typical of police and fire retirement systems in the U.S.

#### F. Medical and Dental Premium Increases

#### Coverage

After retirement, members receive both medical and dental coverage through the following plans:

#### Medical Plan Choices

- Kaiser
- Lifeguard
- City of San Jose Plan

Payment for this coverage is made from the Police and Fire Retirement Fund. The responsibility for funding the medical benefit is equally shared by the City and the members. For dental, the City contributes 75% of the cost and the member contributes 25%.

## Premium Increase Assumptions

Contribution rates are calculated to provide prefunding for the next 10 years expected premium requirements. This requires a projection of the expected premium increases over the next 10 years.

## Dental Plan

- Delta Dental
- Dental Benefit Providers

Setting premium increase assumptions is difficult due to the complexities of the U.S. health care economy and the rapid change being experienced in the health care industry. However, guidelines for the establishment of future health care cost trends have evolved primarily from the application of Financial Accounting Standard No. 106. Although this standard does not apply to public entities some of its principles are directly applicable to prefunding arrangements like the Police and Fire's.

We recommend and the Board has adopted the following assumptions, which were developed in consultation with Mercer's retiree health care actuarial practice:

Fiscal Year	<u>Medical</u>	<u>Dental</u>
1996-1997	8.5%	8.0%
1997-1998	8.0%	7.5%
1998-1999	7.5%	7.0%
1999-2000	7.0%	6.5%
2000-2001	6.5%	6.0%
2001-2002	6.0%	5.5%
2002-2003	6.0%	5.5%
2003-2004	6.0%	5.5%
2004-2005	6.0%	5.5%
2005-2006	6.0%	5.5%

## **NONECONOMIC ACTUARIAL ASSUMPTIONS**

## General

Noneconomic assumptions are based on observed experience by category of employment by age and/or service group.

A biennial experience study was carried out as of July 1, 1995 and the following assumption changes were adopted by the Board:

- Introduction of service based withdrawal assumptions along with a slightly increase in withdrawal rates;
- Adjustment to service retirement rates; change in the application of service retirement rates (now applied only to members eligible for service retirement) along with an increase in those rates;
- Introduction of vested termination rates;
- Decrease in duty disability rates;
- Increase in ordinary disability rates
- Increased life expectancies after disability retirement.

The experience study was provided to the Board in a separate report, dated September 26, 1995.

## Components

- 1. Nonvested withdrawal
- 2. Service retirement
- 3. Disability retirement (service and nonservice connected)
- 4. Pre-retirement death benefits (before service retirement eligibility; service and nonservice connected)
- 5. Deferred retirement
- 6. Post-retirement mortality

Components 1 through 5 represent the probabilities of separation from active service due to various causes. Component 6 represents the length of time members will live after retirement.

#### Separation from Active Service

The probabilities for each noneconomic assumption component are listed in Appendix B. Each of the probabilities depends on the others. For example, if there is more turnover, there will be fewer retirements.

#### Post-Retirement Mortality

The life expectancies based are on our July 1, 1995 experience study of post-retirement mortality are shown in Appendix B.

# **ACTUARIAL VALUATION METHODS**

## **ACTUARIAL FUNDING METHOD**

## **Responsibility of the Actuary**

A retirement system is a long term proposition. It contains benefit promises that extend many decades into the future. The fiduciaries responsible for funding the System cannot wait until these promises become due before seeking out the money needed to pay for them. The actuary's primary responsibility is to assist the Board to structure a financial plan to advance fund the benefit promises of the System and to monitor its performance. This financial plan is more commonly referred to as an actuarial funding method.

## **City Contributions**

City contributions consist of two components:

- 1. Normal Cost That annual contribution rate which, if paid annually from a member's first year of membership through the year of retirement, would accumulate to the amount necessary to fully fund the member's retirement-related benefits. Accumulation includes annual crediting of interest at the assumed investment earnings rate. The contribution rate is expressed as a percentage of the member's compensation.
- 2. Contribution to the Unfunded Actuarial Accrued Liability (UAAL) That annual contribution rate which, if paid annually over the UAAL amortization period, would accumulate to the amount necessary to fully fund the UAAL. Accumulation includes annual crediting of interest at the assumed investment earnings rate. The contribution is calculated to remain as a level percentage of future active member payroll (including payroll of new members as they enter the System) assuming a constant number of active members. In order to remain as a level percentage of payroll, amortization payments are scheduled to increase at the annual inflation rate of along with expected payroll. The UAAL is being funded over the 40-year period beginning in 1977, with 22 years remaining from the July 1, 1995 valuation date.

A more complete definition of the Unfunded Actuarial Accrued Liability and other actuarial terms is provided in the Glossary of Actuarial Terms which can be found in Appendix E.

The actuarial funding method, which has been adopted by the Board, is called the Entry Age normal Funding Method.

#### **Employee Contributions**

The members' contribution rates are recalculated on an actuarial basis at each actuarial study. The members presently contribute at the rate of 9.36% of pay. This rate includes costs resulting from studies performed by the plan's prior actuary in 1993.

## **ACTUARIAL VALUE OF ASSETS**

#### **Actuarial Standards**

In 1993 the Actuarial Standards Board issued Standard of Practice (SOP) No. 4 entitled Measuring Pension Obligations. Section 5.2.6 of SOP No. 4 states, in part, that the Actuarial Value of Assets should generally reflect some function of market value; however, it may be appropriate to use methods which smooth out the effects of shortterm volatility in market value.

In Mercer's opinion, the use of smoothing methods are especially important for City with limited budgetary flexibility, such as governmental entities.

### **Determination of Actuarial Value of Assets**

The Board has adopted a method which includes the smoothing of both realized and unrealized gains and losses over four years. In other words, only a portion of total capital gains and losses will be recognized during the first four years from when they occur. Under this method, actuarial asset values will tend to be more stable than market value, and yet will not be affected by investment decisions whether a security is held or sold. The Actuarial Value of Assets as of June 30, 1995 was determined as follows:

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## Calculation of Actuarial Value of Assets

1. Gains (Losses)

The of Ween	<u>Total Gains</u>	(Losses)	Total y 2004	Number of Years Remaining in Deferred Period as	Amount of Gain (Loss) Deferred as of <u>6/30/95</u>
<u>Final Year</u>	Unrealized	<u>keanzeu</u>	<u>10121 X 20%</u>	<u>of 6/30/95</u>	
Through 6/91	(\$3,278,000)	\$44,195,000	\$8,183,000	0	\$0
7/91- 6/92	23,464,000	\$14,695,000	\$7,632,000	1	7,632,000
7/92 - 6/93	7,671,000	\$46,679,000	\$10,870,000	2	21,740,000
7/93 - 6/94	(\$64,910,000)	\$29,362,000	(\$7,110,000)	3	(21,330,000)
7/94 - 6/95	\$85,332,000	\$10,404,000	\$19,147,000	4	76,588,000
2. Total Gair	n/Loss Deferred as o	of June 30, 1995	•		\$84,630,000
3. Market Va	lue of Investments	as of June 30, 1	995		\$941,786,000
4. Actuarial	Value of Investment	s (32.)			\$857,156,000
5. Net Book	Value of Assets				\$866,826,000
6. Investmer	nts:				
a. Cost V	Value				\$859,159,000
b. Actua	rial Value (4)				\$857,156,000
7. Net Actua	rial Value of Assets				\$864,823,000
(5 6.a	+ 6.b.)				
8. Retiree He	ealth Insurance Rese	erves at			
a. Medic	value: ral				\$9,282,000
h Denta	·				\$1 127 000
		d foo Doubie -			¢1,127,000
9. Actuarial Contributi	on Rates (7 8a 3	u for Pension 8b.)			ə854,414,000

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# **ACTUARIAL VALUATION RESULTS**

## **CITY AND EMPLOYEE CONTRIBUTION RATES**

The following Table 6 provides a comparison of the City and Employee contribution rates and estimated annual contribution amounts under the recommended actuarial assumptions. The estimated annual contribution amounts are based upon a projected annual payroll as of July 1, 1995.

# Table 6 Contribution Rates and Estimated Annual Contributions

Valuation Basis	<u>City C</u>	City Contributions		Employee Contributions	
(Inflation/Investment <u>Return</u> )	Rate	Annual <u>Amount</u> *	Rate	Annual Amount	
Current Rates (5%/8%)	22.24%	\$24,285,000	9.36%	\$10,221,000	
New Rates (5%/8%)	21.61%	\$23,597,000	9.40%	\$10,265,000	

The component parts of the above city and employee contribution rates broken down among the various member categories can be found in Table 7 and Table 8.

Details supporting the medical and dental rate calculations can be found on Table 9 and 10.

\* Based on 7/1/95 annual payroll of \$109,196,000.

## Explanation of Contribution Rate Changes

## **City Contribution Rates**

The components of the change in city contribution rates are approximately as follows:

Current Rate Assumption Changes	22.24%
Salary Scale Change	.42%
Pre-retirement Assumptions	(.64%)
Post-retirement Assumptions	.63%
Subtotal	22.65%
Actuarial Experience	
<ul> <li>Investment (gains)/losses</li> </ul>	(.15%)
Salary (gains)/losses	(.46%)
Change in medical trends	(.48%)
Other miscellaneous changes	<u>.05%</u>
Revised Rate:	21.61%
Employee Contribution Rates	
Current Rate	9.36%
Assumption Changes	
Salary Scale Change	.15%
Pre-retirement Assumptions	(.12%)
Post-retirement Assumptions	<u>.11%</u>
Subtotal	9.50%
Actuarial Experience	
Change in medical trends	(.48%)
Interest adjustment	.30%
Other miscellaneous changes	<u>.08%</u>
### Table 7

#### Employee Contribution Rate Detail 8% interest and 5% inflation assumptions

#### TOTAL EMPLOYEE CONTRIBUTION RATES

		<u>Current</u>		<u>N</u>	ew
	`	% of	Annual	% of	Annual
		<u>Payroll</u>	<u>Amount*</u>	<u>Payroll</u>	<u>Amount</u> *
Recomi interest	mended Rates @ 8% t and 5% inflation			· ·	
a.	Basic				
	Normal Cost	5.43%	\$5,929,000	5.86%	\$6,399,000
	UAL	0.00%	0	0.00%	0
ь.	COL				
	Normal Cost	2.06%	2,249,000	2.15%	2,348,000
	UAL	0.00%	0	0.00%	0
c.	Medical Insurance	1.72%	1,878,000	1.24%	1,354,000
d.	Dental Insurance	0.15%	164,000	<u>0.15%</u>	164,000
e.	Total	9.36%	\$10,220,000	9.40%	\$10,255,000

\*Based on July 1, 1995 total payroll of \$109,196,000.

#### Table 8

#### City Contribution Rate Detail 8% interest and 5% inflation assumptions

For comparative purposes, below we show the current employer contributions rates and those recalculated as of June 30, 1995

#### TOTAL CITY CONTRIBUTION RATES

		Current		N	<u>ew</u>
		% of	Annual	% of	Annual
		<u>Payroll</u>	Amount*	<u>Payroll</u>	<u>Amount</u>
Recomr interest	nended Rates @ 8% and 5% inflation				
a.	Basic				
	Normal Cost	14.49%	\$15,823,000	15.63%	\$17,067,000
	UAL	(2.80%)	(3,057,000)	(2.72%)	(2,970,000)
b.	COL				, ,
	Normal Cost	5.49%	5,995,000	5.72%	6,246,000
	UAL	2.89%	3,156,000	1.29%	1,409,000
с.	Medical Insurance	1.72%	1,878,000	1.24%	1,354,000
d.	Dental Insurance	<u>0.45%</u>	491,000	0.45%	491,000
e.	Total	22.24%	\$24,286,000	21.61%	\$23,597,000

\*Based on July 1, 1995 total payroll of \$109,196,000

## Table 9

# Retiree Health Insurance 10 Year Cost Projection Medical Benefits

	(1)	(2)	(3)	(4)	(5) Cost as a Perce	(6) ntage of Payroll
Year	Annual Cost Per Retiree	Number of Insured Retiree	Annual Cost (1) x (2)	Total Covered Payroll	Actual Percentage	Level Percentage [(7) - (8)]/(9)
7/1/95	\$3.272	770	\$2.519.000	\$109,196,000	2.31%	2.48%
7/1/96	\$3,550	824	\$2,925,000	\$114,656,000	2.55%	2,48%
7/1/97	\$3,834	882	\$3,380,000	\$120,389,000	2.81%	2.48%
7/1/98	\$4,122	943	\$3,888,000	\$126,408,000	3.08%	2.48%
7/1/99	\$4,411	1,009	\$4,452,000	\$132,728,000	3.35%	2.48%
7/1/00	\$4,698	1,080	\$5,074,000	\$139,364,000	3.64%	2.48%
7/1/01	\$4,980	1,156	\$5,755,000	\$146,332,000	3.93%	2.48%
7/1/02	\$5,279	1,236	\$6,527,000	\$153,649,000	4.25%	2.48%
7/1/03	\$5,596	1,323	\$7,404,000	\$161,331,000	4.59%	2.48%
7/1/04	\$5,932	1,416	\$8,397,000	\$169,398,000	4.96%	2.48%
(7) Present (8) Estimate	Value of Future Be d Reserve of Asset	enefits: ts	32,306,000			
Availabl	e for Medical Pren	niums:	9,282,000			
(9) Present	Value for Future S	alaries:	928,665,000			
Actuarial a	ssumptions					
Investment	Yield:	8.00%				
Growth in (	Covered Payroll	5.00%				
Growth in F	Retiree Payroll	7.00%				
Funding:	-	10 years				

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## Table 10

## Retiree Health Insurance 10 Year Cost Projection Dental Benefits

	(1)	(2)	(3)	(4)	(5) Cost as a Paras	(6) etacs of Perroll
Year	Annual Cost Per Retiree	Number of Insured Retiree	Annual Cost (1) x (2)	Total Covered Payroll	Actual Percentage	Level Percentage [(7) - (8)]/(9)
7/1/95	\$695	766	\$532.000	\$109,196,000	0.49%	0.60%
7/1/96	\$751	820	\$616,000	\$114,656,000	0.54%	0.60%
7/1/97	\$807	877	\$708,000	\$120,389,000	0.59%	0.60%
7/1/98	\$863	938	\$810,000	\$126,408,000	0.64%	0.60%
7/1/99	\$919	1,004	\$923,000	\$132,728,000	0.70%	0.60%
7/1/00	\$974	1,074	\$1,046,000	\$139,364,000	0.75%	0.60%
7/1/01	\$1,028	1,150	\$1,182,000	\$146,332,000	0.81%	0.60%
7/1/02	\$1,085	1,230	\$1,335,000	\$153,649,000	0.87%	0.60%
7/1/03	\$1,145	1,316	\$1,507,000	\$161,331,000	0.93%	0.60%
7/1/04	\$1,208	1,408	\$1,701,000	\$169,398,000	1.00%	0.60%
(7) Present (8) Estimate	Value of Future Be d Reserve of Asset	enefits: ts	6,671,000			
Availabl	e for Medical Pren	niums:	1,127,000			
(9) Present	Value for Future S	alaries:	928,665,000			
Actuarial a Investment Growth in C Growth in F Funding:	<b>ssumptions</b> Yield: Covered Payroll Retiree Payroll	8.00% 5.00% 7.00% 10 years				

# **FUNDING STATUS**

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# **EVALUATION OF FUNDING STATUS**

#### Background

The evaluation of the System's funding status is simply the comparison of its actual value of assets to a target value of assets. There are two funding status measures calculated for the System:

Funding Status <u>Measure:</u>	Target Assets	Actual Assets	Purpose
GASB No. 5	Accrued benefits with projected salary	Accounting value	Ongoing comparative funding measure
Funding Method Progress	Actuarial Accrued Liability	Actuarial Value of Assets	Progress toward funding UAAL

This section of the report provides the System's funding status under each of these measures, followed by an exhibit which summarizes the System's funding history.

#### GASB No. 5 - "Ongoing Plan" Assumption With Future Salary Increases

Financial reporting requirements promulgated by the Governmental Accounting Standards Board (GASB) under Statement No. 5 are in effect for plan fiscal years starting after December 15, 1986. The GASB No. 5 liabilities assume an ongoing plan, that is, they include future withdrawals, deaths and disability retirements. In addition, *future projected salary increases* are included in these figures. The Pension Benefit Obligation includes all liabilities of the System for benefits granted to members and beneficiaries already on the pension roll, including future cost of living increases. All basic and cost of living liabilities of active and vested inactive members are included for every year of service already earned at the valuation date, whether vested or not vested.

The GASB Statement No. 5 liabilities based on the 8% interest rate and graded salary scale assumptions calculated as of June 30, 1993 and 1995 based on their respective interest rate and salary scale assumptions are as follows:

			June 30, 1993 Investment Return 8% and Graded <u>Salary Scale</u>	June 30, 1995 Investment Return 8% and Graded <u>Salary Scale</u>
(1)	Per	nsion Benefit Obligation		
	a.	Current Retirees and	\$256,266,000	\$345,293,000
		Beneficiaries		
	b.	Terminated Vested Members	4,060,000	6,034,000
	c.	Active Members' Accumulated	85,915,000	100,010,000
		Contributions		
	d.	Active Members' Employer		
		Financed Portion:		
		Vested	322,832,000	318,789,000
		Non-Vested	43,809,000	72,862,000
	e.	Other	<u>6,637,000</u>	<u>10,409,000</u>
	f.	Total Pension Benefit Obligation	\$719,519,000	\$853,397,000
(2)	Net	Assets at Book Value*	730,149,000	866,826,000
(3)	Fur	nding Ratio at Book Value	101.5%	101.6%

\* Excludes accounts payable.

This ratio is expected to reach 100% on or before the end of the amortization period over which the UAAL is being funded.

#### **Funding Method Progress**

The GASB has issued two proposed statements; Accounting for Pensions by State and Local Government Employers; and Financial Reporting for Defined Benefit and Note Disclosures for Defined Contribution Plans. Both of these proposals, scheduled to become effective for 1997 and 1996 fiscal years, respectively, require funding status to be measured based upon the actuarial funding method adopted by the Board of Retirement, i.e., the Entry Age Normal Funding Method. Thus, the target value of assets is equal to the Actuarial Accrued Liability (AAL) and the actual value of assets is the Actuarial Value of Assets developed earlier in this report. These new GASB standards will supersede GASB No. 5 in its entirety.

			June 30, 1993 Investment Return 8% <u>and Graded Salary</u> <u>Scale</u>	June 30, 1995 Investment Return 8% and Graded Salary Scale
1.	Act	uarial Accrued Liability (AAL)		
	a.	Current Retirees and Beneficiaries	\$256,266,000	\$345,293,000
	b.	Terminated Vested Members	4,060,000	6,034,000
	c.	Active Members' Accumulated Contributions	85,915,000	100,010,000
	d.	Active Members City Financed Portion	369,882,000	377,402,000
	e.	Other	<u>6,637,000</u>	10,409,000
	f.	Total	\$722,760,000	\$839,148,000
2.	Net	Assets at Actuarial Value*	\$721,229,000	\$864,823,000
3.	Fun	iding Ratio at Actuarial Value	99.8%	103.1%

\* Excludes accounts payable

This ratio is expected to reach 100% on or before the end of the amortization period over which the UAAL is being funded.

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# **ACTUARIAL BALANCE SHEET**

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## **ACTUARIAL BALANCE SHEET**

The purpose of the Actuarial Balance Sheet is to compare assets with liabilities in order to define the portion of the liabilities which need to be funded by the City and Employee in the future.

System liabilities equal the present value of all future benefits expected to be paid to current and future pensioners and beneficiaries of the System.

System assets are equal to the sum of:

- the assets currently available to pay benefits,
- the present value of future contributions expected to be made by current active members, and
- the present value of future contributions expected to be made by the city.

The last item, the present value of future city contributions, is made up of two parts:

- 1. The Present Value of Future City Normal Costs: Using the Entry Age Normal Cost Method, the City budgets a certain percentage of payroll which will be sufficient to fund benefits for members from their entry into the Plan. The Normal Cost is the level percentage of salary each year that is necessary to fund Members' benefits under the current benefit provisions. Normal Cost is funded from a Member's date of employment to the expected retirement date. An adjustment is made for the deductions which will be made from the future salaries of Plan members. For this valuation, the Normal Cost percentage is 21.35%.
- 2. The Unfunded Actuarial Accrued Liability: The portion of the present value of future city contributions which will not be funded by the future Entry Age Normal Cost contributions is the Unfunded Actuarial Accrued Liability (UAAL). The UAAL arises from prior contributions that were less than the current Normal Cost. This usually results from benefits and assumption changes and the net effect of prior gains and losses. If the city had always contributed the current Normal Cost, if there were no prior benefit or assumption changes and if actual experience exactly matched the actuarial assumptions, the Normal Cost would be sufficient to fund all benefits and there would be no UAAL. The UAAL percentage is (1.43%).

## ACTUARIAL BALANCE SHEET As of June 30, 1995

#### ASSETS

	BASIC	COL	TOTAL
1. Total Actuarial Value of Assets	\$643,544,000	\$220,866,000	\$864,410,000
2. Present Value of Future Contributions by Member			
a) Retirement b) Medical and Dental	69,739,000 17,820,000	25,480,000 0	95,219,000 17,820,000
<ul> <li>3. Present Value of Future Contributions by the City:</li> <li>a) Normal Cost</li> <li>b) Unfunded Actuarial Accrued Liability</li> </ul>	185,970,000 (48,825,000)	67,949,000 23,150,000	253,919,000 (25,675,000)
c) Medical and Dental	<u>21.156,000</u>	0	<u>21,156,000</u>
4. Total Actuarial Assets	<u>\$889,404.000</u>	<u>\$337,445,000</u>	<b>\$1,226,849,000</b>
LIA	BILITIES		
	BASIC	COL	TOTAL
5. Present Value of Retirement Allowances Payable to Present Retired Members	\$228,087,000	\$117,206,000	\$345,293,000
<ul><li>6. Present Value of Retirement Allowances to be Granted for:</li><li>a) Service Retirement</li><li>b) Disability Retirement</li></ul>	263,049,000 339,564,000	94,797,000 121,497,000	357,846,000 461,061,000
7. Present Value of Death Benefits to be Granted	8,922,000	3,809,000	12,731,000
<ol> <li>Present Value of Members' Contributions to be Returned Upon Withdrawal Before Retirement</li> </ol>	809,000	136,000	945,000
<ol> <li>Present Value of Medical and Dental Benefits**</li> </ol>	38,977,000	0	38,977,000
10. Accounts Payable	<u>9,996,000</u>	0	<u>9,996,000</u>
11. Total Actuarial Liabilities	<u>\$889,404,000</u>	<u>\$337,445,000</u>	<u>\$1,226,849,000</u>

\* Based on 8% interest and 5% inflation plus graded merit and longevity. \*\* Includes \$10,409,000 of estimated medical and dental reserves.

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# SYSTEM ASSETS

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## SYSTEM ASSETS

The following asset information was provided to us by the Plan staff. We have not audited or verified these figures. These assets are at book value, market value, and actuarial value.

	June 30, 1994	June 30, 1993	Percent Change
Net Book Value	\$805,966,000	\$730,149,000	10.4%
Net Market Value	803,261,000	\$792,354,000	1.4%

The approximate rates of return on plan assets are shown below, based on the following analysis.

	Book Value	Market Value	Actuarial Value
Value of Assets at 6/30/93	\$730,149,000	\$792,354,000	\$721,229,000
Contributions: City Members	22,826,065 9,354,510	22,826,065 9,354,510	22,826,065 9,354,510
Benefits Paid to Participants	23,997,769	23,997,769	23,997,769
Expenses Paid	4,193,809	4,193,809	4,193,809
Investment Earnings	71,828,003	6,918,003	57,533,003
Value of Assets at 6/30/94	\$805,966,000	\$803,261,000	\$782,751,000
NET RATE OF RETURN (Net of Expenses)	9.24%	0.34%	7.38%

	June 30, 1995	June 30, 1994	Percent Change
Net Book Value	\$866,826,000	\$805,966,000	7.6%
Net Market Value	\$949,453,000	\$803,261,000	18.2%

The approximate rates of return on plan assets are shown below, based on the following analysis.

	Book Value	Market Value	Actuarial Value
Value of Assets at 6/30/94	\$805,966,000	\$803,261,000	\$782,751,000
Contributions: City Members	25,297,512 10,689,508	25,297,512 10,689,508	25,297,512 10,689,508
Benefits Paid to Participants	26,625,580	26,625,580	26,625,580
Expenses Paid	4,853,425	4,853,425	4,853,425
Investment Earnings	56,351,985	141,683,985	77,562,048
Value of Assets at 6/30/95	\$866,826,000	\$949,453,000	\$864,821,000
NET RATE OF RETURN (Net of Expenses)	6.37%	16.94%	9.23%

The 8.30% average rate of return on the actuarial value of assets over the two years ending June 30, 1995 is more than the 8% rate assumed for the prior year. This resulted in an actuarial gain which reduced the budgeted contribution for the System.

## SYSTEM ACCOUNTING ASSETS, RESERVES AND OTHER LIABILITIES

As of June 30, 1995

#### **ASSETS:**

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	Retirement Fund	Cost-of- Living Fund	Total
Investments of retirement plans:		<u>-</u>	
In securities	\$606,873,000	\$13,559,000	\$20,432,000
In real estate	30,981,000	7,745,000	38,726,000
Receivable from City of San Jose:	<i>r •</i>		
Employee contributions	307,000	87,000	394,000
Employer contributions	581,000	351,000	932,000
Accrued investment income	5,736,000	2,174,000	7,910,000
Due from brokers	7,900,000	323,000	8,223,000
Other	169,000	36,000	205,000
	<u>\$652.547.000</u>	<u>\$224,275,000</u>	<u>\$876.822.000</u>
LIABILITIES:			
		** ***	·
Refunds payable to terminated	\$33,000	\$9,000	\$42,000
employees		0	0 567 000
Due to brokers	8,507,000	0	8,507,000
Advances, deposit, and	102.000	25.000	107 000
reimbursable credits	102,000	25,000	127,000
Other habilities	$\frac{1,092,000}{0,704,000}$	108,000	1,200,000
	9,794,000	202,000	9,996,000
Net Assets available for benefits	\$642,753,000	<u>\$224,073.000</u>	\$866,826,000
FUND BALANCE:			
Employee contributions	\$75,706.000	\$24,622.000	\$100.328.000
Undistributed earnings	567.047.000	199.451.000	766,498,000
	\$642,753.000	\$224,073,000	\$866.826.000

# **APPENDICES**

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#### APPENDIX A

#### MAJOR PROVISIONS OF THE RETIREMENT PLAN

Briefly summarized below are the major provisions of the 1961 San Jose Police and Fire Department Retirement Plan, as amended through July 1, 1995.

#### Final Average Salary (FAS)

Final average salary is defined as the highest 12 consecutive months of compensation earnable, not to exceed 108% of compensation paid to the member during the 12 months immediately preceding the last 12 months of service. FAS excludes overtime pay and expense allowances.

#### Return of Contributions

If a member should resign or die before becoming eligible for retirement, his or her contributions plus 2% interest per annum will be refunded.

#### Service Retirement Benefit

Members with 20 years of service who have attained age 55 are eligible to retire. Members age 70 (no service requirement) and members with 30 years of service, regardless of age, are also eligible to retire.

The normal service retirement benefit is 2.5% of FAS per year of service, not to exceed 75% of FAS.

A special study was performed by the plan's prior actuary in 1992 (and subsequently adopted by the Board) which allows members with 25 years of service to retire at age 50 with unreduced benefits. Otherwise, members age 50 with 20 years of service receive their accrued service retirement benefit, reduced for interest below age 55.

Ten years of service are required for vesting purposes.

#### Disability Benefit

#### Nonservice-connected

Members with 2 years of service, regardless of age, are eligible for nonservice-connected disability. The benefit is 32% of FAS for the first 2 years of service plus 1% of FAS for each successive year. The maximum benefit is 50% of FAS.

Members with more than 20 years of service receive 2.5% of FAS per year of service, not to exceed 75% of FAS.

#### Service-connected

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Members may retire regardless of length of service, and the benefit is the greater of 2.5% of FAS per year of service (maximum 75% of FAS) or 50% of FAS.

#### Death Benefit (before and after retirement)

Nonservice-connected Eligibility is based on 2 years of service, regardless of age. The spouse receives 24% of FAS for the first 2 years of service plus 0.75% of FAS for each successive year. The maximum benefit is 37.5% of FAS.

If a member has eligible dependent children (under age 18, or age 22 if a full time student), the benefits are as follows:

1 child	25% of FAS
2 children	37.5% of FAS
3 or more children	50% of FAS

The total benefits payable to a family shall not exceed 75% of FAS.

If a member does not have a spouse nor dependent children at death, a lump sum equal to the greater of the member's contributions or \$1,000 is paid to the estate.

These benefits are payable for active member deaths and deaths after nonserviceconnected disability retirement.

#### Service-connected

The spouse receives 37.5% of FAS. Eligible dependent children receive 25% of FAS per child. The total benefits payable to a family shall not exceed 75% of FAS.

These benefits are payable for active member deaths and deaths after service-connected disability retirement and service retirement.

#### Death Benefit - Inactive Members (after retirement)

The spouse receives 1.875% of FAS per year of service, not to exceed 37.5% of FAS. Eligible dependent children receive the following:

1 child	1.25% of FAS per year of service
2 children	1.875% of FAS per year of service
3 or more	children 2.5% of FAS per year of service

The total benefits payable to a family shall not exceed 75% of FAS.

#### Cost of Living

The maximum increase in retirement allowance is 3% a year. The increases are based on the annual change in the Consumer Price Index.

#### Post-Retirement Health and Dental

Retirees and survivors with 15 years of service, or receiving a benefit of at least 37.5% of FAS, receive the same medical coverage that the City pays for an active member. Members must have retired from active service to be eligible.

#### Members' Retirement Contributions

The members' contribution rates are recalculated on an actuarial basis at each actuarial study. The members presently contribute at the rate of 9.36% of pay. This rate includes costs resulting from study performed by the plan's prior actuary in 1993.

#### **City's Retirement Contributions**

The City presently contributes at a rate of 22.24% of pay for all members. This rate includes costs resulting from study performed by the plan's prior actuary in 1993. The City rate is the percentage of salary necessary, on an actuarial basis, to provide for the payment of the benefits promised, also taking into account the contributions being made by the members and the assets on hand. These rates are changed in accordance with the results of each actuarial study.

#### **APPENDIX B**

### SUMMARY OF ASSUMPTIONS AND FUNDING METHOD

Assumptions	
Valuation Interest Rate	8%
Post-Retirement Mortality	
(a) Service	
Males Females (b) Disability	1983 Male Group Annuity Mortality Table 1983 Female Group Annuity Mortality Table 1981 Disability Mortality Table for Safety Members
Pre-Retirement Mortality	Based upon the 6/30/95 Experience Analysis
Withdrawal Rates	Based upon the 6/30/95 Experience Analysis
Disability Rates	Based upon the 6/30/95 Experience Analysis
Service Retirement Rates	Based upon the 6/30/95 Experience Analysis
Salary Scales	11.0% for the first five years of service. Graded increases thereafter ranging from 9.5% at age 25 to 5.1% at ages 60 and over. Of the total salary increases, 5.0% is for inflation.
Assets	Five-year smoothed recognition of realized and unrealized capital gains and losses.

### Funding Method

The System's liability is being funded on the Entry Age Normal Cost method with the Unfunded Actuarial Accrued Liability being amortized over a period of 40 years beginning in 1977, with 22 years remaining on the July 1, 1995 valuation date.

## NEW PROBABILITIES OF SEPARATION PRIOR TO RETIREMENT San Jose Police and Fire

Age	0 <service<1 Withdrawa</service<1 	1<=Service<10 Withdrawal	10<=Service Withdrawal	Ordinary <u>Death</u>	Ordinary <u>Disability</u>	Service	Duty <u>Death</u>	Duty <u>Disability</u>	Terminated <u>Vested</u>
20	.150000	.008500	.001500	.000400	.000000	.000000	.000100	.000000	.007000
21	.150000	.008500	.001500	.000400	.000000	.000000	.000100	.000050	.007000
22	.150000	.008500	.001500	.000400	.000000	.000000	.000100	.000100	.007000
23	.150000	,008500	.001500	.000500	.000000	.000000	.000100	.000150	,007000
24	.150000	.008500	.001500	.000500	.000000	.000000	.000100	.000200	.007000
25	.150000	.008500	.001500	.000500	,000000	.000000	.000100	.000250	.007000
26	.150000	.008500	.001500	.000500	000050	.000000	.000200	.000300	.007000
27	.150000	.008500	.001500	.000500	.000050	.000000	,000200	.000350	.007000
28	150000	.008500	.001500	.000500	.000050	.000000	.000200	.000400	.007000
29	.150000	.008500	.001500	.000500	.000050	.000000	.000200	.000450	.007000
30	.150000	.008500	.001500	.000500	.000050	.000000	.000300	.001480	.007000
31	.150000	.008500	.001500	.000500	.000100	.000000	.000300	.001925	.007000
32	.150000	.008500	.001500	.000500	.000100	.000000	.000300	.002369	.007000
33	.150000	.008500	.001500	.000600	.000100	.000000	.000400	.002813	.007000
34	.150000	.008500	.001500	.000600	.000150	.000000	.000400	.003257	.007000
35	.150000	.008500	.001500	.000600	.000150	.000000	.000400	.001873	.007000
36	.150000	.008500	.001500	,000600	.000150	.000000	.000500	,002161	.007000
37	.150000	.008500	.001500	.000600	.000200	.000000	.000500	.002521	.007000
38	.150000	.008500	.001500	.000700	.000200	.000000	.000600	.002881	.007000
39	.150000	.008500	.001500	.000700	.000250	.000000	.000600	.003241	.007000
40	.150000	.008500	.001500	.000700	.001386	.000000	.000700	.002870	.007000
41	.150000	.008500	.001500	.000800	.001664	.000000	.000700	,004018	.007000
42	.150000	.008500	.001500	.00800	.001941	.000000	.008000.	.005453	.007000
43	.150000	.008500	.001500	.000900	.001941	.000000	.000900	.007175	,007000
44	.150000	.008500	.001500	.001000	.002218	.000000	.000900	.009183	.007000
45.	.150000	.008500	.001500	.001000	.001025	.000000	.001000	.013967	.007000
46	.150000	.008500	.001500	.001100	.001153	.000000	.001100	.017458	.007000
47	.150000	.008500	.001500	.001200	.001153	.000000	.001100	.021648	.007000
48	.150000	.008500	.001500	.001200	.001281	.000000	.001200	.027235	.007000
49	.150000	.008500	.001500	.001300	.001281	.000000	.001300	.034218	.007000
50	.150000	.000000	.000000	.001400	.000600	.100000	.001400	.056863	,000000
51	.150000	.000000	.000000	.001500	.000500	.060000	.001400	.066340	.000000
52	,150000	.000000	000000,	.001600	.000350	.065000	.001500	.075817	.000000
53	.150000	.000000	.000000	.001800	.000200	.070000	.001600	.085295	.000000
54 ·	.150000	.000000	000000,	.001900	.000050	.100000	.001700	.094772	.000000
55	.150000	.000000	.000000	.002100	.000000	·150000 -	.001800	.130737	.000000
56	.150000	.000000	.000000	,002300	.000000	.150000	.001900	.161498	.000000
57	.150000	.000000	.000000	,002500	.000000	.150000	.002000	.192260	.000000
58	.150000	.000000	.000000	.002800	.000000	.150000	.002100	.223022	.000000
59	.150000	.000000	.000000	.003100	.000000	.200000	.002200	.246093	.000000
60	.150000	.000000	.000000	.003500	.000000	.250000	.002300	.254788	,000000
61	.150000	.000000	.000000	.003900	.000000	,300000	.002400	.269776	.000000
62	.150000	.000000	.000000	.004400	.000000	.300000	.002500	.281016	.000000
63	.150000	.000000	,000000	.004900	.000000	.400000	.002700	.290758	.000000
64	.150000	.000000	.000000	.005600	.000000	500000	.002800	.299751	.000000
65	.000000	.000000	.000000	.000000	.000000	1.000000	.000000	000000.	,000000

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Age	Member	<b>Beneficiary</b>	Age	<u>Member</u>	<b>Beneficiary</b>
50	29.18	34.91	80	7.64	10.20
51	28.30	33.97	81	7.21	9.63
52	27.42	33.03	82	6.81	9.09
53	26.55	32.10	83	6.43	8.57
54	25.68	31.16	84	6.07	8.06
55	24.82	30.23	85	5.73	7.58
56	23.97	29.31	86	5.41	7.11
57	23.13	28.39	87	5.10	6.66
58	22.29	27.48	88	4.82	6.23
59	21,46	26.57	89	4.54	5.81
60	20.64	25.67	90	4.28	5.40
61	19.83	24.78	91	4.04	5.02
62	19.02	23.89	92	3.80	4.66
63	18.23	23.01	93	3.58	4.31
64	17.45	22.15	94	3.37	3.98
65	16.69	21.28	95	3.16	3.67
66	15.95	20.43	96	2.98	3.37
67	15.23	19.59	97	2.80	3.10
68	14.52	18.76	98	2.62	2.84
69	13.84	17.94	99	2.45	2.59
70	13.18	17.13	100	2.28	2.36
71	12.54	16.34	101	2.11	2.14
72	11.92	15.56	102	1.95	1.93
73	11.31	14.81	103	1.78	1.74
74	10.72	14.08	104	1.61	1.55
75	10.15	13.37	105	1.43	1.37
76	9.60	12.69	106	1.26	1.19
77	9.08	12.03	107	1.09	1.03
78	8.57	11.39	108	.92	.87
79	8.10	10.78	109	.74	.71

## YEARS OF LIFE EXPECTANCY AFTER SERVICE RETIREMENT San Jose Police and Fire

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<u>Age</u>	Member	Age	<u>Member</u>	Age	<u>Member</u>
20	54.84	50	26.93	80	7.61
21	53.86	51	26.07	81	7.23
22	52.89	52	25.22	82	6.87
23	51.92	53	24.39	83	6.51
24	50.95	54	23.56	84	6.16 -
25	49.98	55	22.75	85	5.82
26	49.02	56	21.94	86	5.48
27	48.05	57	21.16	87	5.15
28	47.09	58	20.38	88	4.81
29	46.13	59	19.62	89	4.48
30	45.18	60	18.88	90	4.16
31	44.22	61	18.15	91	3.86
32	43.27	62	17.44	92	3.57
33	42.32	63	16.75	93	3.30
34	41.38	64	16.08	94	3.04
35	40.43	65	15.43	95	2.79
36	39.49	66	14.80	96	2.56
37	38.56	67	14.18	97	2.35
38	37.63	68	13.58	98	2.15
39	36.71	69	13.00	99	1.95
40	35.79	70	12.43	100	1.77
41	34.88	71	11.87	101	1.61
42	33.98	72	11.33	102	1.45
43	33.08	73	10.81	103	1.30
44	32.18	74	10.30	104	1.17
45	31.30	75	9.80	105	1.04
46	30.41	76	9.32	106	.92
47	29.53	77	8.86	107	.81
48	28.66	78	8.42	108	.71
49	27.79	79	8.00	109	.61

## YEARS OF LIFE EXPECTANCY AFTER DISABILITY RETIREMENT San Jose Police and Fire

88' - 92' PERS Industrial Disability

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#### **APPENDIX C**

### SUMMARY OF MEMBERSHIP AND BENEFIT STATISTICS

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Active Members									
	June 30, 1995	June 30, 1993	Percent Change						
A. Number	1,812	1,785	1.5%						
B. Average Age	40.25	40.25	0%						
C. Average Years of Service	13.50	13.50	0%						
D. Annual Salary									
i. Total	\$109,196,000	\$98,831,000	10.5%						
ii. Average	\$60,263	\$55,368	8.8%						
Dati	ad and Inactive Ver	ted Momhors							
KCII	Retireu and macuve vested members								
	June 50, 1995	June 50, 1995	Fercent Ghange						
Retired Members									
A. Service Retirement	150	115	29 20/						
ii. Annual Allowance	179	11)	JO.J70						
Basic Only	\$5,869,000	\$3,203,000	83.2%						
COLA	\$615,000	\$481,000	27.9%						
Total Average Monthly	\$6,484,000	\$3,684,000	76.0%						
Amount	\$3,3% 	φ2,070	27.3%						
B. Disability Retirement	-								
i. Number	514	468	9.8%						
ii. Annual Allowance	\$12.964.000	¢10 622 000	21 10/						
COLA	\$12,804,000	\$10,022,000 \$3,127,000	21.1% 17 5%						
Total	\$16,537,000	\$13,749,000	20.3%						
Average Monthly	\$2,681	\$2,448	9.5%						
Amount									
C. Beneficiaries									
i. Number	151	117	29.1%						
II. Annual Allowance Basic Only	\$1 647 000	\$1,210,000	25 104						
COLA	\$915.000	\$738.000	24.0%						
Total	\$2,562,000	\$1,957,000	30.9%						
Average Monthly	\$1,414	\$1,394	1.4%						
Amount									
Inactive Vested Members	· · · ·								
A. Number	29	28	3.6%						

# System Membership and Benefit Statistics

AGE	YEARS OF SERVICE									
GROUP	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	TOTAL
20-24	12	=		··						12
	42,601									24,601
25-29	158	44								202
	46,007	53,954								47,738
30-34	116	162	48							326
	48,439	57,218	60,927							54,640
35-39	35	70	170	35	1					311
	49,464	58,781	62,540	64,370	59,933					60,420
40-44	10	34	107	128	46					325
	51,075	59,291	61,940	65,173	67,139					63,338
45-49	2	8	41	84	159	65				359
	42,610	58,618	62,101	64,745	66,986	66,620				65,515
50-54			2	33	60	104	14			213
			59,933	62,804	64,748	66,254	71,466			65,579
55-59				9	6	27	14	1		57
				65,154	62,507	67,294	74,261	80,321		68,392
60-64				1	1	3		2		7
,				72,718	59,933	63,082		72,718		66,762
65-69							-			0
70-74										0
75+										0
TOTAL	333	318	368	290	273	199	28	3	0	1,812
	47,227	57,367	62,092	64,708	66,370	66,467	72,864	75,252		60,263
		TOTAL SALARY\$109,196,274AVERAGE AGE40.27AVERAGE YEARS OF SERVICE13.42						4		

## Annual Salary and Membership Distribution of Active Members as of June 30, 1995

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AGE				YEA	RS OF REI	IREMENT				
GROUP	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	TOTAL
BELOW 30										0
35-39										0
40-44										0
45-49										0
50-54	39 49,256									39 49,256
55-59	61 42,033	4 43,560								65 42,127
60-64	10 47,330	17 30,702	1 31,453							28 36,667
65-69	•	1 39.734	4 44,981	3 17.869						8 34,158
70-74			"	4 22.215						4 22,215
75-79				2 48.157	6 27.922					8 32.980
80-84				101237	25.604	2 28.109				26.857
85-89					1 25.761	_0,109	2 19.416			21 531
90+					29,701		19,110			0
TOTAL	110	22	5	9	9	2 29 100	2	0	0	159
	42,070	<b>33,4</b> 30	TOTAL PE AVERAGE AVERAGE	AGE YEARS RET	Z7,107 NEFITS	28,109 6,483 59. 5.1	53 16	]		40,779

## Annual Benefit and Membership Distribution of Retired Members

SERVICE RETIREMENT

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## Annual Benefit and Membership Distribution of Retired Members

### **DISABLED RETIREES**

AGE	YEARS OF RETIREMENT									
GROUP	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	TOTAL
30-34	2	1								3
	26,983	23,094								25,687
35-39	5	1	1							7
	28,343	25,927	16,650							26,327
40-44	3	3		1						7
	26,999	25,421		15,526						24,684
45-49	12	10	2	4	1					29
	31,514	24,622	21,614	17,737	18,243					26,097
50-54	45	9	10	11	4	1				80
	40,587	29,508	22,466	18,155	16,032	14,342				32,435
55-59	58	34	19	7	6					124
	44,356	35,249	26,556	18,465	17,298					36,361
60-64	15	47	16	- 5	11	5				99
	47,840	39,137	28,791	20,559	19,088	15,486				34,423
65-69	1	16	33	22	3	2	1			78
	39,876	38,686	33,541	25,220	17,782	14,482	12,750			30,969
70-74	1	1	8	25	13	1				49
	58,511	25,319	30,182	28,029	25,342	16,803				28,005
75-79				8	13	3	1			25
				27,715	29,898	16,552	15,096			27,006
80-84				1	10	1		1		13
				25,509	31,844	14,500		12,837		28,560
85-89										0
										0
90+										0
										0
TOTAL	142	122	89	84	61	13	2	1	0	514
	41,338	35,404	29,192	24,060	24,361	15,515	13,923	12,837	0	32,173
			TOTAL I	PENSION I	BENEFITS	16,536,702				
	AVERAGE AGE60.58AVERAGE YEARS RETIRED10.50						60.58			
						10.50				

60

BENEFICIARIES														
AGE		YEARS OF RETIREMENT												
GROUP	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	TOTAL				
0-19	2	1	5	1	<u></u>					9				
	11,114	12,803	9,387	6,662						9,847				
20-24	1		1	1						3				
	14,392		5,959	6,662						9,004				
25-29										0				
										0				
30-34	1	1	1							3				
	28,082	25,426	13,317							22,275				
35-39	2									2				

#### Annual Benefit and Membership Distribution of **Retired Members**

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30,246

3

34,181

2

12,223

40-44

6 13 45-49 5 1 1 23,698 27,551 20,690 29,447 9,870 12 50-54 4 8 18,894 20,553 19,447 16 55-59 9 1 4 2 17,212 8,534 12,498 11,118 14,729 16 60-64 5 8 2 1 17,718 16,642 21,321 7,969 13,764 65-69 4 4 21 6 5 2 17,025 19,224 14,905 13,490 17,215 17,952 6 2 3 2 3 16 70-74 17,250 9,986 15,003 14,265 26,282 17,274 10 75-79 2 2 1 1 3 1 11,548 16,284 16,387 24,758 10,901 15,587 15,227 17 80-84 4 4 5 3 1 12,905 13,129 15,131 10,236 15,039 13,267 85-89 1 1 1 1 6 1 1 15,041 33,953 10,661 10,432 10,294 10,086 14,821 90+ 1 1 2 9,323 9,772 9,548 TOTAL 49 42 27 18 12 1 151 1 1 12,971 17,896 11,548 16,965 18,992 19,388 11,971 10,086 14,821 TOTAL PENSION 2,561,777 BENEFITS AVERAGE AGE 60.70 AVERAGE YEARS 8.91 RETIRED

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30,246

25,398

Service		Monthly Allowance		
	Number	Basic	Cost of Living	Total
		SERVICI	E RETIREMENT	
A	147	\$442,583	\$50,431	\$493,014
В	2	6,442	171	6,613
С	3	9,972	-	9,972
Е	1	4,598	-	4,598
G	1	3,702	146	3,848
Ι	2	9,827	322	10,149
К	2	8,269	-	8,269
Р	1	3,719	147	3,866
Total	159	\$489,112	\$51,217	\$540,329
	DISABILITY			
А	501	\$1,032,149	\$305,380	\$1,337,529
В	2	5,113	83	5,196
С	4	10,891	161	11,052
E	1	2,052	45	2,097
F	1	2,804	-	2,804
К	3	11,042	163	11,205
S	1	3,984	133	4,117
U	1	3,981	76	4,057
Total	514	\$1,072,016	\$306,041	\$1,378,057
	BENEFICIARIES			
	151	\$137,242	\$76,239	\$213,481
Grand Total	824	\$1,698,370	\$433,497	\$2,131,867

## Summary of Monthly Allowances As of June 30, 1995

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## APPENDIX E

## **GLOSSARY OF ACTUARIAL TERMINOLOGY**

#### **Glossary of Actuarial Terminology**

**AAL:** See Actuarial (Accrued Liability)

Accrued 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.

Actuarial Accrued Liability: "Target assets" which would be on hand were the System's current level of benefits to have been funded by normal costs from date of entry into the System by all current members and interest at the current investment return assumption were credited each year. It also includes the actuarial present value of all retired members and beneficiaries future benefits.

Actuarial Asset Value: The value of Assets used by the actuary in the actuarial valuation. In order to reduce the impact of assets value fluctuation and to capture the long term intrinsic value of the System's assets, actuaries sometimes use smoothing methods. These methods usually reflect the current market value of assets in some manner.

Actuarial Assumptions: Those assumptions such as interest (investment return), salary increases, termination from service and mortality needed by the actuary to complete an actuarial valuation.

Actuarial Gain (Loss): The difference between actual experience and actuarial assumption anticipated experience during the period between two actuarial valuation dates.

Actuarial Present Value: The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. For purposes of this standard, each such amount or series of amounts is:

- (a) adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, Social Security, marital status, etc.)
- (b) multiplied by the probability of the occurrence of an event (such as survival, death, disability, termination of employment, etc.) on which the payment is conditioned, and
- (c) discounted according to an assumed rate (or rates) of return to reflect the time value of money.

**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.

**Actuary:** A business mathematician trained in mathematics, risk analysis and finance. An actuary is assigned the task of determining the contribution required to maintain financial balance as to inflow and outflow from a retirement system.

**Assets:** Underlying funds available to provide for the System's benefits. It reflects the accumulation of all contributions and investment earnings.

**Contribution to the Unfunded Actuarial Accrued Liability (UAAL)**: That annual contribution rate which, if paid annually over the UAAL amortization period, would accumulate to the amount necessary to fully fund the UAAL. Accumulation includes annual crediting of interest at the assumed investment earnings rate. The contribution is calculated to remain as a level percentage of future active member payroll (including payroll of new members as they enter the System) assuming a constant number of active members. In order to remain as a level percentage of payroll, amortization payments are scheduled to increase at the annual inflation rate.

**GASB:** The Government Accounting Standards Board...which promulgates financial reporting and disclosure requirements for governmental entities, including public retirement systems.

**GASB Statement No. 5:** A set of disclosures promulgated by GASB to provide users of financial statements information as to the funding status of a public retirement system. GASB No. 5 specifies the Pension Benefit Obligation as a standardized target level of assets.

**Investment Return Assumption:** The average rate of investment earnings which is assumed will be earned by System funds.

**Normal Cost:** That annual contribution which, if paid annually from a member's first year of membership through the year of retirement, would accumulate to the amount necessary to fully fund the member's retirement benefits. Accumulation includes annual crediting of interest at the assumed investment earnings rate. The contribution rate is expressed as a percentage of the member's compensation.

**Pension Benefit Obligation:** A standardized disclosure measure of the present value of pension benefits, adjusted for the effects of projected salary increases, estimated to be payable in the future as a result of employee service to date.

**Projected Unit Credit Actuarial Funding Method:** An actuarial method for prefunding future retirement benefits. Under this method the member contribution stream plus the employer contribution stream is determined as a pro-rata portion of the amount necessary to finance future benefits for current members. The pro-ration is based on the pattern by which benefits accrue to member by age and service.

**UAAL:** (See Unfunded Actuarial Accrued Liability).

**Unfunded Actuarial Accrued Liability:** Actuarial Accrued Liability minus the Actuarial Value of Assets.

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Experience A	Analysis	
"What If" Impact of Assumption	on Changes on 1	993 Rates
7/1/93 Valuation	City Rate 22.24%	Employee Rate 9.36%
Higher Real Salary Increases Other Pre-Retirement (mainly fewer	+ 0.42%	+0.15%
disabilities) Post Retirement (fewer disability	- 0,64%	- 0.12%
deaths, lower premium increases)	+ 0.63%	+ 0.11%
Total Effect of New Assumptions	+ 0.41%	+ 0.14%
New "What If" Contribution Rates	22.65%	9.50%

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(Dollar Amounts	in Millions)	lal y
Ň	1993	1995
City Rate	22.24%	21.61%
Employee Rate	9.36%	9.40%
Actuarial Accrued Liability Asset Values:	\$722.8	\$839.1
At Market Value	\$792.4	\$949.5
• At Actuarial Value	\$721.2	\$864.8
Unfunded Actuarial Liability Funding Ratios:	<b>\$</b> 1.5	(\$ 25.7)
<ul> <li>Contribution Basis</li> </ul>	99.8%	103.1%

Actuarial Val	luation	
Actuarial Experience (Gains	s and Los	ses)
Effect on Rates		-
		Employee
	City Rate	Rate
Investment Gains	- 0.15%	N/A
Salary Gains	- 0.46%	N/A
Interest Adjustment	N/A	+ 0.30%
Lower Medical Trends	- 0.48%	- 0.48%
Miscellaneous Losses	+ 0.05%	+ 0.08%
Total Effect of Actuarial Experience	- 1.04%	- 0.10%
liam M. Mercer, Inc. 11/1/95		····· \

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Actuarial Va	luation	
Change in Contribution	Rates	
	City Rate	Employee Rate
July 1, 1993 Rates	22.24%	9.36%
Effect of New Assumptions	+ 0.41%	+ 0.14%
Effect of Actuarial Experience	- 1.04%	- 0.10%
July 1, 1995 Rates	21.61%	9.40%
Villiam M. Mercer, Inc. 11/1/95		N

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Ea • Additi	urly Ref	tirement	t Progra	ms	
	Program I (53/25 or 55/23)	Program II 25 & Out	Program III 20 & Out	Program IV (50/20)	
City	1.06% to 1.93%	0.84% to 1.48%	2.05% to 3.75%	0.86% to 1.56%	
Members	0.02% to 0.07%	0.01% to 0.04%	0.04% to 0.15%	0.02% to 0.05%	
• 21 year	amortizati	on of additic	nal pension	cost	
• 25% to	50% accept	ance			
• Include	es medical a	nd dental			
m M. Mercer, Inc		11/1/95			9












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Retire	nent Eligi	bility Impr	ovements
• Addition	nal Cost Rates	3	
	Program II	Program III	Program IV
	25 & Out	20 & Out	(50/20)
City	0.78%	4.29%	1.93%
Member	0.14%	0.93%	0.35%
• Permane	ent change in E	ligibility Require	ements
• Includes	estimated imp	act on retiremen	nt rates.
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uam M. Mercer, inc.		11/1/90	

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		Purchasin	g Power Pro	gram	
	• Ad	ditional Rates			
		Alternative A 1 Year Ad Hoc	Alternative B Actives & Retireds	Alternative C Actives Only	
	City	0.04%	4.79%	3.31%	
	• Ass	uming City pays	entire cost		
Willia	im M. Mer	cer, Inc.	11/1/95		لا 16

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	Full Reciprocity
	Picks up pre - 9/30/94 service for eligibility only
	Additional Rates:
	City 0.10% to 0.30%
	Member 0.01% to 0.03%
willi	am M. Mercer, Inc. 11/1/95 18

