

REPORT ON
ACTUARIAL VALUATION OF THE
LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

JUNE 30, 1987

TOWERS, PERRIN, FORSTER & CROSBY

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December 21, 1987

Board of Administration
City Employees' Retirement System
Room 300, City Hall South
111 East First Street
Los Angeles CA 90012

Members of the Board:

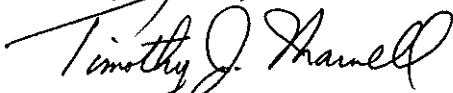
We are pleased to enclose our report setting forth the results of the actuarial valuation of your Retirement System as of June 30, 1987.

The valuation is based on financial statements and employee data furnished by the Retirement Office.

We would like to take this opportunity to express our appreciation for the courtesy and cooperation accorded us by the Retirement Office during the course of our work.

Respectfully submitted,

TOWERS, PERRIN, FORSTER & CROSBY



Timothy J. Marnell, M.A.A.A., A.S.A.
Consultant

TJM/bal

Enclosure

REPORT ON
ACTUARIAL INVESTIGATION AND VALUATION OF THE
LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

JUNE 30, 1987

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REPORT ON ACTUARIAL VALUATION OF THE
LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

SECTION I

INTRODUCTION

In accordance with our agreement with you and with the provisions of the City Charter, we have completed an actuarial valuation of the assets and liabilities of the System as of June 30, 1987.

The Retirement Office furnished us with magnetic tapes containing detailed employee information on all active members of the System as of June 30, 1987. We were also given a tape containing information on all members receiving retirement allowances as of June 30, 1987.

The following schedule shows a summary of the membership of the System as of June 30, 1987.

SUMMARY OF MEMBERSHIP OF SYSTEM
AS OF JUNE 30, 1987

ACTIVE MEMBERS

| | <u>Number</u> | <u>Annual Salary</u> | <u>Age</u> | <u>Average Monthly Salary</u> |
|------------------|---------------|----------------------|------------|---------------------------------------|
| Total 6-30-86 | 20,075 | \$621,871,710 | 41.5 | \$2,581 |
| Total 6-30-87 | 20,870 | 645,991,722 | 41.3 | 2,579 |
| Percent Increase | +4.0% | +3.9% | -0.5% | -0.1% |

PENSIONERS

| | <u>Number</u> | <u>Annual Allowance</u> | <u>Average Monthly Allowance</u> |
|------------------|---------------|-------------------------|--------------------------------------|
| Total 6-30-86 | 9,436 | \$104,525,760 | \$ 924 |
| Total 6-30-87 | 9,794 | 114,857,696 | 977 |
| Percent Increase | +3.8% | +9.9% | +5.7% |

The Retirement Office also furnished us with an accounting balance sheet setting forth the assets and liabilities of the System as of June 30, 1987. We did no physical audit of these assets and our calculations are based on the balance sheet as submitted.

SECTION II

MEMBER CONTRIBUTIONS

Sections 4.1031 and 4.1040(C) of the Administrative Code specify the basis for normal, survivor, and cost-of-living member contribution rates. However, Los Angeles City also enters into collective bargaining agreements with its employees regarding the level of member contributions. The resulting rates need not be those indicated by the code formulas and the current assumptions. To reflect this situation accurately in the current valuation, we have been directed by the Board of Administration to assume that members who have entered the System before February 1, 1983 will contribute at the employee contribution rates specified in the June 30, 1977 valuation report. If certain members contribute at a lower rate through a collective bargaining agreement, the City should contribute 68% of the amount of contribution assumed by the City.

A complete list of member contribution rates from the June 30, 1977 valuation report is also in Section VI. The following table illustrates these rates:

Member Rates of Contribution Including 15% Factor for COL

| <u>Age</u> | <u>Normal</u> | <u>Continuance</u> | <u>Total</u> |
|------------|---------------|--------------------|--------------|
| 20 | 8.20% | .44% | 8.64% |
| 25 | 8.58 | .63 | 9.21 |
| 30 | 9.06 | .75 | 9.81 |
| 35 | 9.61 | .83 | 10.44 |
| 40 | 10.19 | .91 | 11.10 |
| 45 | 10.76 | .97 | 11.73 |
| 50 | 11.34 | 1.03 | 12.37 |
| 55 | 11.85 | 1.09 | 12.94 |

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In addition, members who enter the System on or after February 1, 1983 contribute at a rate of 6%.

Effective July 1, 1988, due to its sizable plan surplus, the Family Death Benefit Plan monthly contribution of \$4.50 should be reduced to \$3.50 per participating member, which should be continued until modified by future study.

SECTION III
RESULTS OF THE ACTUARIAL VALUATION

Introduction

The purpose of the actuarial valuation is to analyze the financial condition of the System and to recommend any necessary changes in City contributions. In this section we describe the funding method of the System and give the resulting actuarial balance sheet as of June 30, 1987. Section IV gives the recommended City contributions called for by the funding method. Section V presents various views of the funding progress of the System, including the change in accrued liability over the year as defined by the Governmental Accounting Standards Board (GASB). Throughout the report, all calculations are based on the actuarial assumptions as discussed in Section VI. The "Beta" formula was applied to all active members.

Funding Method

The primary funding method of the Los Angeles City Employees' Retirement System is the Projected Unit Credit cost method. This method defines the Normal Cost as the present value, based on each member's attained age, of that portion of the total projected benefits deemed to be earned during the current year. The City's Normal Cost is the excess of the Normal Cost over members' contributions. The Actuarial Accrued Liability is equal to the present value of all benefits allocated to years prior to the current year. The excess of the Actuarial Accrued Liability over the assets is called the Unfunded Actuarial Accrued Liability (UAAL). The Unfunded Actuarial Accrued Liability is amortized over a fixed period of years by City contributions in addition to Normal Cost. Most of the Unfunded Actuarial Accrued Liability is amortized over the period ending

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June 30, 2004 by contributions that will increase in accordance with the salary scale, i.e., 5-3/4% per year. Certain small liabilities are amortized over shorter periods by level dollar amounts.

The Projected Unit Credit cost method is used to fund all benefits except Family Death Benefits. For the Family Death Benefit Plan, the amount contributed in any one year is the present value of expected claims arising during the year. This method is called the Term Cost Funding Method. Traditionally, the required contribution has been reviewed biennially following the valuation.

Accounting Balance Sheet

Our valuation of the Retirement System as of June 30, 1987 was based on the accounting balance sheet furnished by the Retirement Office as shown on the following page. We accepted this statement of assets without audit.

The total value of applicable assets for this valuation of the Retirement System as of June 30, 1987 was determined as follows:

| | |
|--|----------------------|
| 1. Total assets | \$1,935,815,760 |
| 2. Less reserves and liabilities established for the following: | |
| a. family death benefit insurance | \$ 12,420,339 |
| b. 20% of undistributed earnings | 2,257,182 |
| c. total | <u>\$ 14,677,521</u> |
| 3. Net applicable assets as of June 30, 1987 (item 1 less item 2(c)) | \$1,921,138,239 |

LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM
STATEMENT OF RESERVE AND FUND BALANCE ACCOUNTS

| <u>ACTUARIAL</u> | <u>JUNE 30</u> | |
|--------------------------------|------------------------|------------------------|
| | <u>1987</u> | <u>1986</u> |
| Member Contributions | \$ 323,512,702 | \$ 301,862,160 |
| Annuities | 233,563,996 | 214,631,356 |
| Subsequent Service | 973,421,290 | 793,002,332 |
| Cost of Living | 347,932,103 | 307,218,304 |
| Family Death Benefit Insurance | <u>12,420,339</u> | <u>11,645,957</u> |
| Total Actuarial | 1,890,850,430 | 1,628,360,109 |
| <u>OTHER</u> | | |
| Undistributed Earnings | 11,285,910 | 10,643,284 |
| Gain/Loss on Equities | 33,679,420 | 26,359,954 |
| Fund Balance | <u>-0-</u> | <u>-0-</u> |
| Total Other | <u>44,965,330</u> | <u>37,003,238</u> |
| Total Reserves & Fund Balance | <u>\$1,935,815,760</u> | <u>\$1,665,363,347</u> |

CITY OF LOS ANGELES
CITY EMPLOYEES' RETIREMENT SYSTEM
BALANCE SHEETS

Preliminary, Unaudited

JUNE 30

| <u>ASSETS</u> | <u>1987</u> | <u>1986</u> |
|---|------------------------|------------------------|
| CASH | \$ 1,955,636 | \$ 2,101,786 |
| RECEIVABLES: | | |
| Accrued interest and dividend income | \$ 28,787,582 | \$ 26,934,391 |
| Other receivables | 3,074,621 | 3,527,646 |
| Proceeds from sale of investments | <u>3,705,230</u> | <u>10,969,617</u> |
| INVESTMENTS | | |
| Temporary Bonds | 215,642,383 | 133,970,916 |
| Common Stocks | 1,021,162,794 | 976,369,075 |
| | <u>673,508,419</u> | <u>527,199,074</u> |
| Total Assets | 1,947,916,665 | 1,681,072,505 |
| <u>LIABILITIES</u> | | |
| ACCOUNTS PAYABLE AND ACCRUED EXPENSES | (12,100,905) | (15,709,158) |
| NET ASSETS AVAILABLE FOR PLAN BENEFITS | <u>\$1,935,815,760</u> | <u>\$1,665,363,347</u> |
| <u>FUND BALANCE</u> | | |
| EMPLOYEES' CONTRIBUTIONS | 323,512,702 | 301,862,160 |
| RESERVE FOR RETIREMENT ALLOWANCE FOR RETIRED MEMBERS AT ACTUARIAL VALUATION | | |
| CITY CONTRIBUTIONS AVAILABLE FOR FUTURE RETIREES (CITY CONTRIBUTIONS REQUIRED TO FUND DEFICIENCY) | | |
| Total Fund Balance | <u>\$1,935,815,760</u> | <u>\$1,665,363,347</u> |

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Actuarial Balance Sheet

This actuarial valuation of the Retirement System as of June 30, 1987 is based on demographic assumptions developed during the last actuarial investigation and on 8% interest assumption, a 5-3/4% salary increase assumption, and a 3% future cost-of-living increase. The resulting values of assets and liabilities developed by the valuation are set forth in the following Actuarial Balance Sheet.

Los Angeles City Employees'
Retirement System

ACTUARIAL BALANCE SHEET

AS OF JUNE 30, 1987

ASSETS

| | | | | |
|---|--------------|--------------------|--------------------|----------------------|
| 1. Total Applicable Assets | | | | \$1,921,138,239 |
| 2. Present Value of Future Contributions of Members | | | | 481,942,600 |
| 3. Present Value of Future Contributions by the City on Account of: | | | | |
| a. Basic Pensions: | | | | |
| i. Normal Cost | | | \$312,230,339 | |
| ii. Amortization of Certain Liabilities: | | | | |
| - Prior Service Pensions | \$ 6,226,654 | | | |
| - Increase due to 1965 Amendments | | 1,563,337 | | |
| - Remaining Unfunded Actuarial Accrued Liability | | <u>220,431,350</u> | 228,221,341 | |
| b. Cost-of-Living Pensions: | | | | |
| i. Normal Cost | | | 162,566,861 | |
| ii. Amortization of Certain Liabilities: | | | | |
| - Increase due to 1967 Amendments | | | 12,054,977 | |
| - Remaining Unfunded Actuarial Accrued Liability | | <u>374,388,481</u> | <u>386,443,458</u> | <u>1,089,461,999</u> |
| 4. Total Assets | | | | <u>3,492,542,838</u> |

Los Angeles City Employees'
Retirement System

ACTUARIAL BALANCE SHEET

AS OF JUNE 30, 1987

LIABILITIES

5. Present Value of Benefits Already Granted:

| | | |
|-------------------|--------------------|-----------------|
| a. Basic | \$ 900,434,868 | |
| b. Cost-of-Living | <u>519,734,670</u> | \$1,420,169,538 |

6. Present Value of Benefits to Be Granted:

| | | |
|-------------------|--------------------|----------------------|
| a. Basic | \$1,614,544,900 | |
| b. Cost-of-Living | <u>457,828,400</u> | <u>2,072,373,300</u> |

7. Total Liabilities \$3,492,542,838

Los Angeles City Employees'
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TPF&C prepared the actuarial balance sheet in a condensed format using terminology that we hope will aid in its review and discussion.

"Cost-of-Living Pensions" are the postretirement increases provided by Section 510.1 of Article XXXIV of the City Charter and related ordinances.

"Basic Pensions" are all benefits other than "Cost-of-Living Pensions" and the Family Death Benefit Plan provided by Article XXXIV of the City Charter and related ordinances.

"Amortization of Certain Past Service Liabilities" refers to those liabilities of the System amortized over fixed periods of time pursuant to the Charter, ordinance, or Board authorization.

SECTION IV

RECOMMENDED CITY CONTRIBUTIONS

On the basis of the actuarial valuation of the Retirement System as of June 30, 1987, we respectfully submit the following recommendations in accordance with the provisions of Article XXXIV of the City Charter and related ordinances.

Using the Projected Unit Credit cost method and assuming that all members will contribute on the basis of the full rates shown in Section III, we recommend that City contributions for fiscal year 1987-1988 be as follows:

| | <u>Recommended City Contributions For 1987-1988</u> | |
|--|---|--|
| | <u>Percentage of Salary</u> | <u>plus</u> <u>Fixed-Dollar Amount</u> |
| a. For Basic Pensions: | | |
| i. Normal Cost | 3.71% | --- |
| ii. Prior Service-Minimum Pensions (Charter-Period ending June 30, 1997) | --- | \$ 927,955 |
| iii. Increase due to 1965 Amendments (Charter-Period ending June 30, 1990) | --- | 606,627 |
| iv. Unfunded Actuarial Accrued Liability | <u>2.41%</u> | <u>---</u> |
| v. Total Basic Pensions | 6.12% | \$ 1,534,582 |

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| | <u>Recommended City Contributions For 1987-1988</u> | |
|--|---|--------------------------------|
| | <u>Percentage of Salary</u> | <u>Fixed-Dollar Amount</u> |
| b. For Cost-of-Living Pensions: | | |
| i. Normal Cost | 1.94% | --- |
| ii. Increase due to 1967 Amendment (Charter-Period ending June 30, 1997) | --- | \$ 1,796,547 |
| iii. Unfunded Actuarial Accrued Liability (Period ending June 30, 2004) | <u>4.10%</u> | <u>---</u> |
| iv. Total Cost-of-Living Pensions | 6.04% | \$ 1,796,547 |
| c. Contribution rate for prefunding Health Care Subsidiary (Members eligible to retire or within 5 years of being eligible to retire only) | 1.74% | --- |
| d. Total Basic and Cost-of-Living Pensions and Health Care | 13.90% | \$ 3,331,129 |
| e. For the Family Death Benefit Plan: | | |
| \$3.50 per month for each participating member in the Family Death Benefit Insurance Plan until modified by subsequent valuation. | | |

An ordinance that became effective in October 1975 permits the City to "subsidize" a portion of employee contributions. Because the portion subsidized by the City will not be refunded to the member upon employment termination before retirement, the City does not have to pay the total amount of employee contributions it subsidizes. On the basis of the actuarial valuation as of June 30, 1987, we recommend the City contribute 68.82% of subsidized employee contributions to the System, i.e., for each \$10,000 the City assumes, it should contribute \$6,882. We note the amount the City subsidizes is the difference between members' actual contributions and the amount of contributions if they contribute at the levels shown in Section VII.

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The following table compares present City percentage of salary contribution rates with those proposed.

| | <u>City Percentage of Salary Contributions</u> | | |
|----------------------|--|----------------|--------------|
| | <u>Proposed</u> | <u>Present</u> | <u>Ratio</u> |
| Normal Cost | 5.65% | 5.53% | 1.02 |
| Amortization of UAAL | 6.51% | 7.76% | 0.84 |
| Health Care Subsidy | 1.74% | 0.73% | 2.38* |
| Total | 13.90% | 14.02% | 0.99 |

The main reason for the change in the City's contribution percentage in approximate order of impact are: 1) investment earnings in excess of expected; 2) salary increases less than expected; and 3) extending the covered members for funding of the Health Care Subsidy.

We believe if the recommendations contained herein are adopted, the System will be maintained on a sound basis in accordance with the actuarial assumptions and funding methods underlying the calculations.

*Considered group has been increased. Without this change, the percentage of salary would be 0.91%, and the ratio would be 1.25.

SECTION V

MEASURES OF FUNDING PROGRESS

Several measures can be used to evaluate the funding progress of a retirement system and, in the past, we have presented four of these measures. Because the Projected Unit Credit Method is used to determine the City's contribution and this method has been specified by the GASB as pointed out below, we have reduced our evaluation to this single ratio.

Unfunded Actuarial Accrued Liability (UAAL)

A common method of measuring funding progress is to compare the change in the UAAL from one year to another. Last year the UAAL was \$736,484,965. This year the UAAL decreased to \$614,664,799.

The schedule below compares the assets on hand with the present value of benefits earned to date. This method has been specified by the Governmental Accounting Standards Board Statement No. 5 (November, 1986) as the appropriate method for disclosure. We have shown figures for the current and previous valuations to acquaint you with the funding progress.

A funding ratio of over 100% would mean that monies had already been paid for benefits yet to be earned, and this may not be appropriate in a public retirement system.

Los Angeles City Employees'
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The present value of benefits earned to date is calculated on the basis of an ongoing system, i.e., reflecting all actuarial assumptions including future salary increases. Death and disability benefits are prorated by years of service to normal retirement age. This is sometimes referred to as the "Plan Continuation Liability."

| | <u>June 30, 1987</u> | <u>June 30, 1986</u> |
|---|----------------------|----------------------|
| 1. Present Value of Benefits Earned to Valuation Date | | |
| (a) Basic Benefits | \$1,762,826,568 | \$1,664,989,286 |
| (b) Cost-of-Living Benefits | <u>772,976,470</u> | <u>723,084,412</u> |
| (c) Total | 2,535,803,038 | 2,388,073,698 |
| 2. Applicable Assets on Hand | | |
| (a) Basic Benefits | 1,534,605,227 | 1,303,353,069 |
| (b) Cost-of-Living Benefits | <u>386,533,012</u> | <u>348,235,664</u> |
| (c) Total | \$1,921,138,239 | \$1,651,588,733 |
| 3. Funding Ratio | | |
| (a) Basic Benefits | 87.1% | 78.3% |
| (b) Cost-of-Living Benefits | 50.0% | 48.2% |
| (c) Total | 75.8% | 69.2% |

The increase in funding ratios is primarily a result of a greater than expected investment yield and salary increases less than anticipated.

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To summarize, there are two basic considerations in contemplating the funding status of a system. The first is the assets accumulated to pay benefits and how they compare with the current liability for benefits already earned. The second consideration is normally more important: what is the financial commitment of the plan sponsor to continue to fund both benefits earned to date and benefits to be earned in the future, and does the plan sponsor have the financial resources to meet budgetary obligations both next year and in the future, as recommended in Section V? However, as pointed out earlier, the City has adopted as a valuation funding method the same method as GASB adopted, namely Projected Unit Credit. Therefore, these two considerations regarding the funding status produce identical measures.

SECTION VI
STATISTICAL INFORMATION

- Summary of Actuarial Assumptions

- Mortality after Service Retirement - Schedule 1

- Mortality after Disability Retirement - Schedule 2

- Probability of Occurrence (of Decrements from Active Service)
- Schedule 3: Male, Female

- Member Contribution Rates

- Distribution of Active Members by Age and Service

- Distribution of Pensioners by Age and Year of Retirement

- Summary of Major Plan Provisions

SUMMARY OF ACTUARIAL ASSUMPTIONS

The Projected Unit Credit cost Method was used in conjunction with the following actuarial assumptions:

1. Interest: 8.0% per annum.
2. Salary Scale: 5.75% per annum.
3. Spouses and Dependents: 80% of male employees and 50% of female employees assumed married at retirement, with wives assumed four years younger than husbands.
4. Rehire of Former Employees: Assumed not to be rehired.
5. Asset Valuation: Asset values taken directly from statements furnished by the City.
6. Rates of Termination of Employment: As shown on the following pages titled "Probability of Occurrence."
7. Probabilities of Mortality after Retirement: As shown in table that follows (Schedule 1).
8. Probabilities of Mortality after Disability: As shown in table that follows (Schedule 2).
9. Cost-of-Living Increases: 3.0% per annum, compounded annually.

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10. Health Benefits Liability: A liability for retired members is determined by computing the present value of health insurance premiums, assuming they will be paid during the future lifetime of each member. An additional liability is also determined for those active participants eligible to retire as of the valuation date.

SCHEDULE 1
EXPECTATION OF LIFE
1971 Group Annuity*
(x-0) (x-6)

| <u>Age</u> | <u>Male</u> | <u>Female</u> |
|------------|-------------|---------------|
| 15 | 60.13 years | 65.97 years |
| 20 | 55.26 | 61.10 |
| 25 | 50.40 | 56.23 |
| 30 | 45.57 | 51.37 |
| 35 | 40.76 | 46.53 |
| 40 | 36.01 | 41.72 |
| 45 | 31.36 | 36.96 |
| 46 | 30.45 | 36.01 |
| 47 | 29.55 | 35.07 |
| 48 | 28.66 | 34.13 |
| 49 | 27.78 | 33.20 |
| 50 | 26.91 | 32.28 |
| 51 | 26.05 | 31.36 |
| 52 | 25.20 | 30.45 |
| 53 | 24.36 | 29.55 |
| 54 | 23.53 | 28.66 |
| 55 | 22.71 | 27.78 |
| 56 | 21.90 | 26.91 |
| 57 | 21.10 | 26.05 |
| 58 | 20.31 | 25.20 |
| 59 | 19.53 | 24.36 |
| 60 | 18.76 | 23.53 |
| 61 | 18.00 | 22.71 |
| 62 | 17.26 | 21.90 |
| 63 | 16.53 | 21.10 |
| 64 | 15.81 | 20.31 |
| 65 | 15.00 | 19.53 |
| 66 | 14.43 | 18.76 |
| 67 | 13.77 | 18.00 |
| 68 | 13.13 | 17.26 |
| 69 | 12.50 | 16.53 |
| 70 | 11.91 | 15.81 |

* This table was used with a two-year age setback.

SCHEDULE 1
(continued)

EXPECTATION OF LIFE

1971 Group Annuity*
(x-0) (x-6)

| <u>Age</u> | <u>Male</u> | <u>Female</u> |
|------------|-------------|---------------|
| 71 | 11.33 years | 15.11 years |
| 72 | 10.79 | 14.43 |
| 73 | 10.26 | 13.77 |
| 74 | 9.74 | 13.13 |
| 75 | 9.24 | 12.50 |
| 76 | 8.76 | 11.91 |
| 77 | 8.28 | 11.33 |
| 78 | 7.83 | 10.79 |
| 79 | 7.41 | 10.26 |
| 80 | 7.00 | 9.74 |
| 81 | 6.63 | 9.24 |
| 82 | 6.27 | 8.76 |
| 83 | 5.94 | 8.28 |
| 84 | 5.63 | 7.83 |
| 85 | 5.34 | 7.41 |
| 86 | 5.06 | 7.00 |
| 87 | 4.80 | 6.63 |
| 88 | 4.55 | 6.27 |
| 89 | 4.31 | 5.94 |
| 90 | 4.08 | 5.63 |
| 91 | 3.87 | 5.34 |
| 92 | 3.66 | 5.06 |
| 93 | 3.46 | 4.80 |
| 94 | 3.26 | 4.55 |
| 95 | 3.07 | 4.31 |
| 96 | 2.89 | 4.08 |
| 97 | 2.71 | 3.87 |
| 98 | 2.54 | 3.66 |
| 99 | 2.37 | 3.46 |
| 100 | 2.20 | 3.26 |
| 101 | 2.04 | 3.07 |
| 102 | 1.88 | 2.89 |
| 103 | 1.72 | 2.71 |
| 104 | 1.55 | 2.54 |
| 105 | 1.38 | 2.37 |

* This table was used with a two-year age setback.

SCHEDULE 1
(continued)

EXPECTATION OF LIFE

1971 Group Annuity*
(x-0) (x-6)

| <u>Age</u> | <u>Male</u> | <u>Female</u> |
|------------|-------------|---------------|
| 106 | 1.21 years | 2.20 years |
| 107 | 1.04 | 2.04 |
| 108 | .88 | 1.88 |
| 109 | .71 | 1.72 |
| 110 | .50 | 1.55 |

* This table was used with a two-year age setback.

SCHEDULE 2

1981 DISABILITY MORTALITY TABLE

| <u>Age</u> | <u>General</u> | <u>Safety</u> | <u>Age</u> | <u>General</u> | <u>Safety</u> |
|------------|----------------|---------------|------------|----------------|---------------|
| 20 | .0066 | .0019 | 65 | .0379 | .0368 |
| 21 | .0074 | .0020 | 66 | .0390 | .0385 |
| 22 | .0080 | .0021 | 67 | .0400 | .0400 |
| 23 | .0085 | .0022 | 68 | .0411 | .0411 |
| 24 | .0091 | .0023 | 69 | .0422 | .0422 |
| 25 | .0096 | .0024 | 70 | .0437 | .0437 |
| 26 | .0100 | .0026 | 71 | .0454 | .0454 |
| 27 | .0106 | .0027 | 72 | .0472 | .0472 |
| 28 | .0106 | .0028 | 73 | .0496 | .0496 |
| 29 | .0112 | .0030 | 74 | .0526 | .0526 |
| 30 | .0122 | .0031 | 75 | .0553 | .0553 |
| 31 | .0127 | .0033 | 76 | .0601 | .0601 |
| 32 | .0132 | .0034 | 77 | .0659 | .0659 |
| 33 | .0137 | .0036 | 78 | .0726 | .0726 |
| 34 | .0143 | .0038 | 79 | .0797 | .0797 |
| 35 | .0148 | .0040 | 80 | .0874 | .0874 |
| 36 | .0154 | .0042 | 81 | .0955 | .0955 |
| 37 | .0159 | .0044 | 82 | .1037 | .1037 |
| 38 | .0165 | .0046 | 83 | .1123 | .1123 |
| 39 | .0170 | .0049 | 84 | .1211 | .1211 |
| 40 | .0176 | .0051 | 85 | .1301 | .1301 |
| 41 | .0182 | .0054 | 86 | .1393 | .1393 |
| 42 | .0188 | .0057 | 87 | .1487 | .1487 |
| 43 | .0194 | .0060 | 88 | .1585 | .1585 |
| 44 | .0201 | .0064 | 89 | .1687 | .1687 |
| 45 | .0208 | .0067 | 90 | .1795 | .1795 |
| 46 | .0215 | .0071 | 91 | .1905 | .1905 |
| 47 | .0222 | .0076 | 92 | .2017 | .2017 |
| 48 | .0229 | .0081 | 93 | .2123 | .2123 |
| 49 | .0236 | .0086 | 94 | .2265 | .2265 |
| 50 | .0244 | .0092 | 95 | .2412 | .2412 |
| 51 | .0252 | .0099 | 96 | .2562 | .2562 |
| 52 | .0259 | .0107 | 97 | .2725 | .2725 |
| 53 | .0267 | .0117 | 98 | .2902 | .2902 |
| 54 | .0275 | .0130 | 99 | .3091 | .3091 |
| 55 | .0284 | .0150 | 100 | .3298 | .3298 |
| 56 | .0293 | .0177 | 101 | .3525 | .3525 |
| 57 | .0303 | .0210 | 102 | .3772 | .3772 |
| 58 | .0312 | .0236 | 103 | .4062 | .4062 |
| 59 | .0321 | .0260 | 104 | .4415 | .4415 |
| 60 | .0330 | .0280 | 105 | .4852 | .4852 |
| 61 | .0339 | .0298 | 106 | .5393 | .5393 |
| 62 | .0348 | .0315 | 107 | .6061 | .6061 |
| 63 | .0358 | .0332 | 108 | .6874 | .6874 |
| 64 | .0369 | .0350 | 109 | .7856 | .7856 |
| | | | 110 | 1.0000 | 1.0000 |

SCHEDULE 3

PROBABILITY OF TERMINATION OF EMPLOYMENT

The following pages indicate the probability of termination of employment for each of nine separate sources of termination:

- Ordinary withdrawal: member terminates and elects refund of member contributions.
- Vested withdrawal: member terminates and contributions are left on deposit.
- Ordinary death: member dies prior to eligibility for retirement; death not employment-related.
- Ordinary disability: member receives disability retirement where the member's disability is not employment-related.
- Service retirement: member retires after satisfaction of requirements of age and/or service for reasons other than disability.
- Service disability: member receives disability retirement as the result of employment-related disability.
- Service death: member dies prior to retirement as the result of performance of assigned duties.
- DWE - Service Retirement: member dies prior to retirement but after satisfaction of age and/or service requirements for service retirement.
- DWE - Disability Retirement: member dies prior to retirement but after satisfaction of age and/or service requirements for disability retirement.

The probabilities shown for each cause of termination represent the probability that a given member will terminate at a particular age for the indicated reason. For example, if the probability of ordinary withdrawal at age 25 is .1000, then we are assuming that 10% of the active members at age 25 will terminate without vested rights during the next year.

LOS ANGELES CITY EMPLOYEES
MALE GENERAL MEMBERS
PROBABILITY OF OCCURRENCE(INCLUDING ELIGIBILITY)

| AGE NEAREST | ORDINARY WITHDRAW | VESTED WITHDRAW | ORDINARY DEATH | ORDINARY DISABLTY | SERVICE RETIRE | SERVICE DISABLTY | SERVICE DEATH | DWE SVC RET | DWE DIS RET |
|----------------|----------------------|--------------------|-------------------|----------------------|-------------------|---------------------|------------------|----------------|----------------|
| 18 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 19 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 20 | 0.2700 | 0.0000 | 0.0003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 21 | 0.2520 | 0.0000 | 0.0003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 22 | 0.2340 | 0.0000 | 0.0004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 23 | 0.2160 | 0.0000 | 0.0004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 24 | 0.1980 | 0.0000 | 0.0004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 25 | 0.1800 | 0.0000 | 0.0005 | 0.0002 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 26 | 0.1680 | 0.0000 | 0.0005 | 0.0002 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 27 | 0.1560 | 0.0000 | 0.0006 | 0.0003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 28 | 0.1440 | 0.0000 | 0.0006 | 0.0004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 29 | 0.1320 | 0.0000 | 0.0007 | 0.0005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 30 | 0.1200 | 0.0000 | 0.0007 | 0.0006 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 31 | 0.1110 | 0.0000 | 0.0008 | 0.0008 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 32 | 0.1020 | 0.0000 | 0.0009 | 0.0009 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 33 | 0.0930 | 0.0000 | 0.0009 | 0.0010 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 34 | 0.0840 | 0.0000 | 0.0010 | 0.0011 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 35 | 0.0750 | 0.0000 | 0.0010 | 0.0013 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 36 | 0.0700 | 0.0000 | 0.0011 | 0.0014 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 37 | 0.0650 | 0.0000 | 0.0012 | 0.0015 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 38 | 0.0600 | 0.0000 | 0.0013 | 0.0016 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 39 | 0.0550 | 0.0000 | 0.0014 | 0.0017 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 40 | 0.0500 | 0.0000 | 0.0015 | 0.0018 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 41 | 0.0480 | 0.0000 | 0.0017 | 0.0018 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 42 | 0.0450 | 0.0000 | 0.0018 | 0.0019 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 43 | 0.0430 | 0.0000 | 0.0018 | 0.0019 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 44 | 0.0400 | 0.0000 | 0.0020 | 0.0020 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 45 | 0.0380 | 0.0000 | 0.0023 | 0.0020 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 46 | 0.0360 | 0.0000 | 0.0024 | 0.0021 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 47 | 0.0340 | 0.0000 | 0.0026 | 0.0021 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 48 | 0.0320 | 0.0000 | 0.0027 | 0.0022 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 49 | 0.0300 | 0.0000 | 0.0030 | 0.0022 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 50 | 0.0280 | 0.0000 | 0.0034 | 0.0023 | 0.0020 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 51 | 0.0270 | 0.0000 | 0.0038 | 0.0023 | 0.0030 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 52 | 0.0250 | 0.0000 | 0.0040 | 0.0023 | 0.0040 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 53 | 0.0240 | 0.0000 | 0.0045 | 0.0023 | 0.0055 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 54 | 0.0220 | 0.0000 | 0.0050 | 0.0023 | 0.0235 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 55 | 0.0210 | 0.0000 | 0.0034 | 0.0024 | 0.0945 | 0.0000 | 0.0000 | 0.0026 | 0.0000 |
| 56 | 0.0190 | 0.0000 | 0.0037 | 0.0024 | 0.0675 | 0.0000 | 0.0000 | 0.0030 | 0.0000 |
| 57 | 0.0170 | 0.0000 | 0.0040 | 0.0024 | 0.0785 | 0.0000 | 0.0000 | 0.0032 | 0.0000 |
| 58 | 0.0160 | 0.0000 | 0.0045 | 0.0024 | 0.0900 | 0.0000 | 0.0000 | 0.0036 | 0.0000 |
| 59 | 0.0140 | 0.0000 | 0.0050 | 0.0024 | 0.1000 | 0.0000 | 0.0000 | 0.0040 | 0.0000 |
| 60 | 0.0120 | 0.0000 | 0.0055 | 0.0024 | 0.1935 | 0.0000 | 0.0000 | 0.0044 | 0.0000 |
| 61 | 0.0100 | 0.0000 | 0.0062 | 0.0024 | 0.1400 | 0.0000 | 0.0000 | 0.0049 | 0.0000 |
| 62 | 0.0080 | 0.0000 | 0.0069 | 0.0025 | 0.1500 | 0.0000 | 0.0000 | 0.0054 | 0.0000 |
| 63 | 0.0060 | 0.0000 | 0.0076 | 0.0025 | 0.1680 | 0.0000 | 0.0000 | 0.0060 | 0.0000 |
| 64 | 0.0030 | 0.0000 | 0.0084 | 0.0025 | 0.2125 | 0.0000 | 0.0000 | 0.0066 | 0.0000 |
| 65 | 0.0000 | 0.0000 | 0.0092 | 0.0000 | 0.3500 | 0.0000 | 0.0000 | 0.0074 | 0.0000 |
| 66 | 0.0000 | 0.0000 | 0.0102 | 0.0000 | 0.2240 | 0.0000 | 0.0000 | 0.0081 | 0.0000 |
| 67 | 0.0000 | 0.0000 | 0.0112 | 0.0000 | 0.2240 | 0.0000 | 0.0000 | 0.0090 | 0.0000 |
| 68 | 0.0000 | 0.0000 | 0.0123 | 0.0000 | 0.2240 | 0.0000 | 0.0000 | 0.0097 | 0.0000 |
| 69 | 0.0000 | 0.0000 | 0.0133 | 0.0000 | 0.2500 | 0.0000 | 0.0000 | 0.0107 | 0.0000 |
| 70 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 1.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

LOS ANGELES CITY EMPLOYEES
FEMALE GENERAL MEMBERS
PROBABILITY OF OCCURRENCE (INCLUDING ELIGIBILITY)

| AGE NEAREST | ORDINARY WITHDRAW | VESTED WITHDRAW | ORDINARY DEATH | ORDINARY DISABILITY | SERVICE RETIRE | SERVICE DISABILITY | SERVICE DEATH | DWE SVC RET | DWE DIS RET |
|----------------|----------------------|--------------------|-------------------|------------------------|-------------------|-----------------------|------------------|----------------|----------------|
| 18 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 19 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 20 | 0.1800 | 0.0000 | 0.0002 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 21 | 0.1740 | 0.0000 | 0.0002 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 22 | 0.1680 | 0.0000 | 0.0002 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 23 | 0.1620 | 0.0000 | 0.0002 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 24 | 0.1560 | 0.0000 | 0.0003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 25 | 0.1500 | 0.0000 | 0.0004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 26 | 0.1440 | 0.0000 | 0.0004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 27 | 0.1380 | 0.0000 | 0.0005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 28 | 0.1320 | 0.0000 | 0.0005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 29 | 0.1260 | 0.0000 | 0.0006 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 30 | 0.1200 | 0.0000 | 0.0006 | 0.0001 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 31 | 0.1140 | 0.0000 | 0.0007 | 0.0001 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 32 | 0.1080 | 0.0000 | 0.0007 | 0.0001 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 33 | 0.1020 | 0.0000 | 0.0008 | 0.0001 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 34 | 0.0960 | 0.0000 | 0.0009 | 0.0001 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 35 | 0.0900 | 0.0000 | 0.0009 | 0.0002 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 36 | 0.0840 | 0.0000 | 0.0010 | 0.0002 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 37 | 0.0780 | 0.0000 | 0.0010 | 0.0002 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 38 | 0.0720 | 0.0000 | 0.0011 | 0.0003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 39 | 0.0660 | 0.0000 | 0.0012 | 0.0003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 40 | 0.0600 | 0.0000 | 0.0013 | 0.0004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 41 | 0.0580 | 0.0000 | 0.0014 | 0.0005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 42 | 0.0560 | 0.0000 | 0.0015 | 0.0006 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 43 | 0.0540 | 0.0000 | 0.0015 | 0.0008 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 44 | 0.0520 | 0.0000 | 0.0016 | 0.0010 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 45 | 0.0500 | 0.0000 | 0.0017 | 0.0012 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 46 | 0.0480 | 0.0000 | 0.0018 | 0.0014 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 47 | 0.0460 | 0.0000 | 0.0019 | 0.0014 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 48 | 0.0440 | 0.0000 | 0.0020 | 0.0016 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 49 | 0.0420 | 0.0000 | 0.0021 | 0.0018 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 50 | 0.0400 | 0.0000 | 0.0022 | 0.0020 | 0.0010 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 51 | 0.0380 | 0.0000 | 0.0024 | 0.0024 | 0.0022 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 52 | 0.0360 | 0.0000 | 0.0026 | 0.0028 | 0.0040 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 53 | 0.0340 | 0.0000 | 0.0028 | 0.0032 | 0.0067 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 54 | 0.0320 | 0.0000 | 0.0030 | 0.0036 | 0.0134 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 55 | 0.0300 | 0.0000 | 0.0033 | 0.0040 | 0.0635 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 56 | 0.0280 | 0.0000 | 0.0036 | 0.0040 | 0.0286 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 57 | 0.0260 | 0.0000 | 0.0039 | 0.0040 | 0.0313 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 58 | 0.0240 | 0.0000 | 0.0043 | 0.0040 | 0.0358 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 59 | 0.0220 | 0.0000 | 0.0047 | 0.0040 | 0.0581 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 60 | 0.0200 | 0.0000 | 0.0052 | 0.0000 | 0.1654 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 61 | 0.0160 | 0.0000 | 0.0057 | 0.0000 | 0.0984 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 62 | 0.0120 | 0.0000 | 0.0065 | 0.0000 | 0.1118 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 63 | 0.0080 | 0.0000 | 0.0073 | 0.0000 | 0.1207 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 64 | 0.0040 | 0.0000 | 0.0081 | 0.0000 | 0.1341 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 65 | 0.0000 | 0.0000 | 0.0091 | 0.0000 | 0.2240 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 66 | 0.0000 | 0.0000 | 0.0105 | 0.0000 | 0.1520 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 67 | 0.0000 | 0.0000 | 0.0121 | 0.0000 | 0.1650 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 68 | 0.0000 | 0.0000 | 0.0139 | 0.0000 | 0.1920 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 69 | 0.0000 | 0.0000 | 0.0159 | 0.0000 | 0.2500 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 70 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 1.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

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APPLICABLE TO MEMBERS COVERED UNDER "BETA" FORMULA

115% NORMAL CONTRIBUTION RATES

| <u>Age</u> | <u>Normal Contribution Rate</u> | <u>Age</u> | <u>Normal Contribution Rate</u> |
|------------|-------------------------------------|------------|-------------------------------------|
| 16 | 8.00% | 40 | 10.19% |
| 17 | 8.04 | 41 | 10.29 |
| 18 | 8.08 | 42 | 10.41 |
| 19 | 8.14 | 43 | 10.52 |
| | | 44 | 10.64 |
| 20 | 8.20 | 45 | 10.76 |
| 21 | 8.27 | 46 | 10.89 |
| 22 | 8.34 | 47 | 11.01 |
| 23 | 8.42 | 48 | 11.12 |
| 24 | 8.50 | 49 | 11.24 |
| 25 | 8.58 | 50 | 11.34 |
| 26 | 8.66 | 51 | 11.44 |
| 27 | 8.75 | 52 | 11.55 |
| 28 | 8.86 | 53 | 11.65 |
| 29 | 8.96 | 54 | 11.75 |
| 30 | 9.06 | 55 | 11.85 |
| 31 | 9.17 | 56 | 11.94 |
| 32 | 9.28 | 57 | 12.03 |
| 33 | 9.40 | 58 | 12.13 |
| 34 | 9.50 | 59 | 12.19 |
| 35 | 9.61 | | |
| 36 | 9.73 | | |
| 37 | 9.84 | | |
| 38 | 9.96 | | |
| 39 | 10.07 | | |

71 GAM
5-3/4%
3-1/2% S/S

APPLICABLE TO MEMBERS COVERED UNDER "BETA" FORMULA

115% NORMAL CONTRIBUTION RATES

| <u>Age</u> | <u>Survivor Contribution Rate</u> | <u>Age</u> | <u>Survivor Contribution Rate</u> |
|------------|---------------------------------------|-------------|---------------------------------------|
| 16 | .22% | 40 | .91% |
| 17 | .28 | 41 | .92 |
| 18 | .33 | 42 | .93 |
| 19 | .39 | 43 | .94 |
| | | 44 | .95 |
| 20 | .44 | 45 | .97 |
| 21 | .48 | 46 | .98 |
| 22 | .53 | 47 | .99 |
| 23 | .56 | 48 | 1.00 |
| 24 | .60 | 49 | 1.01 |
| 25 | .63 | 50 | 1.03 |
| 26 | .66 | 51 | 1.05 |
| 27 | .68 | 52 | 1.06 |
| 28 | .70 | 53 | 1.07 |
| 29 | .72 | 54 | 1.08 |
| 30 | .75 | 55 | 1.09 |
| 31 | .77 | 56 | 1.10 |
| 32 | .79 | 57 | 1.12 |
| 33 | .81 | 58 | 1.13 |
| 34 | .82 | 59 and over | 1.14 |
| 35 | .83 | | |
| 36 | .85 | | |
| 37 | .86 | | |
| 38 | .87 | | |
| 39 | .90 | | |

71 GAM
5-3/4%
3-1/2% S/S

APPLICABLE TO MEMBERS COVERED UNDER "BETA" FORMULA

115% NORMAL CONTRIBUTION RATES

Applicable Only to Employees Whose Normal and Survivor
Contribution Rates Are Assigned by the Same Age

| <u>Age</u> | <u>Total Contribution Rate</u> | <u>Age</u> | <u>Total Contribution Rate</u> |
|------------|------------------------------------|------------|------------------------------------|
| 16 | 8.22% | 40 | 11.10% |
| 17 | 8.32 | 41 | 11.21 |
| 18 | 8.41 | 42 | 11.34 |
| 19 | 8.53 | 43 | 11.46 |
| | | 44 | 11.59 |
| 20 | 8.64 | 45 | 11.73 |
| 21 | 8.75 | 46 | 11.87 |
| 22 | 8.87 | 47 | 12.00 |
| 23 | 8.98 | 48 | 12.12 |
| 24 | 9.10 | 49 | 12.25 |
| 25 | 9.21 | 50 | 12.37 |
| 26 | 9.32 | 51 | 12.49 |
| 27 | 9.43 | 52 | 12.61 |
| 28 | 9.56 | 53 | 12.72 |
| 29 | 9.68 | 54 | 12.83 |
| 30 | 9.81 | 55 | 12.94 |
| 31 | 9.94 | 56 | 13.04 |
| 32 | 10.07 | 57 | 13.15 |
| 33 | 10.21 | 58 | 13.24 |
| 34 | 10.32 | 59 | 13.33 |
| 35 | 10.44 | | |
| 36 | 10.58 | | |
| 37 | 10.70 | | |
| 38 | 10.83 | | |
| 39 | 10.97 | | |

71 GAM
5-3/4%
3-1/2% S/S

AGE/SERVICE DISTRIBUTION TOTAL MEMBERS

| AGE ***** | ** SERVICE ** | | | | | | | | | | | | TOTAL ***** | |
|--------------|---------------|--------------|--------------|--------------|--------------|--------------|----------------|----------------|----------------|----------------|----------------|--------------|----------------|------------|
| | 0-1 ***** | 1-2 ***** | 2-3 ***** | 3-4 ***** | 4-5 ***** | 5-9 ***** | 10-14 ***** | 15-19 ***** | 20-24 ***** | 25-29 ***** | 30-34 ***** | 35- ***** | | |
| 15-19 | *NO. * | 32 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 34 |
| | *TOT. AMT* | 543033 | 36957 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 579990 |
| | AVE. AMT* | 16970 | 18479 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17059 |
| 20-24 | *NO. * | 432 | 263 | 199 | 73 | 17 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 1004 |
| | *TOT. AMT* | 8332362 | 5374182 | 4285158 | 1708795 | 421229 | 515975 | 0 | 0 | 0 | 0 | 0 | 0 | 20637701 |
| | AVE. AMT* | 19288 | 20434 | 21533 | 23408 | 24778 | 25799 | 0 | 0 | 0 | 0 | 0 | 0 | 20555 |
| 25-29 | *NO. * | 685 | 509 | 438 | 290 | 140 | 543 | 5 | 0 | 0 | 0 | 0 | 0 | 2610 |
| | *TOT. AMT* | 15801767 | 12884371 | 11484219 | 7883593 | 3947126 | 14424594 | 127679 | 0 | 0 | 0 | 0 | 0 | 66553349 |
| | AVE. AMT* | 23068 | 25313 | 26220 | 27185 | 28194 | 26565 | 25536 | 0 | 0 | 0 | 0 | 0 | 25499 |
| 30-34 | *NO. * | 497 | 435 | 384 | 266 | 163 | 929 | 351 | 16 | 0 | 0 | 0 | 0 | 3041 |
| | *TOT. AMT* | 12294379 | 12101831 | 11106018 | 7972280 | 4878834 | 27598297 | 10037915 | 493210 | 0 | 0 | 0 | 0 | 86482764 |
| | AVE. AMT* | 24737 | 27820 | 28922 | 29971 | 29931 | 29708 | 28598 | 30826 | 0 | 0 | 0 | 0 | 28439 |
| 35-39 | *NO. * | 375 | 314 | 283 | 194 | 117 | 829 | 789 | 510 | 7 | 0 | 0 | 0 | 3418 |
| | *TOT. AMT* | 9596611 | 8630520 | 8445441 | 5642642 | 3516921 | 26912900 | 25902413 | 16611579 | 220072 | 0 | 0 | 0 | 0105479099 |
| | AVE. AMT* | 25591 | 27486 | 29843 | 29086 | 30059 | 32464 | 32829 | 32572 | 31439 | 0 | 0 | 0 | 30860 |
| 40-44 | *NO. * | 240 | 183 | 164 | 136 | 63 | 532 | 572 | 834 | 254 | 11 | 0 | 0 | 2989 |
| | *TOT. AMT* | 6665525 | 5091798 | 4819766 | 4213765 | 2064852 | 17473517 | 21224782 | 30926466 | 9663169 | 341140 | 0 | 0 | 0102484780 |
| | AVE. AMT* | 27773 | 27824 | 29389 | 30984 | 32775 | 32845 | 37106 | 37082 | 38044 | 31013 | 0 | 0 | 34287 |
| 45-49 | *NO. * | 147 | 114 | 113 | 91 | 44 | 325 | 336 | 581 | 469 | 160 | 9 | 0 | 2389 |
| | *TOT. AMT* | 3757672 | 3172810 | 3316267 | 2741773 | 1435688 | 10608535 | 11273319 | 20064696 | 18378170 | 6108592 | 344457 | 0 | 0 81201979 |
| | AVE. AMT* | 25562 | 27832 | 29347 | 30129 | 32629 | 32642 | 33552 | 34535 | 39186 | 38179 | 38273 | 0 | 33990 |
| 50-54 | *NO. * | 97 | 69 | 61 | 47 | 34 | 213 | 254 | 433 | 393 | 372 | 163 | 2 | 2138 |
| | *TOT. AMT* | 2683684 | 2070972 | 1857734 | 1435758 | 1113159 | 6682820 | 8514250 | 14275525 | 14398617 | 14096858 | 6135601 | 64319 | 73329297 |
| | AVE. AMT* | 27667 | 30014 | 30455 | 30548 | 32740 | 31375 | 33521 | 32969 | 36638 | 37895 | 37642 | 32160 | 34298 |
| 55-59 | *NO. * | 53 | 42 | 34 | 36 | 17 | 171 | 207 | 295 | 267 | 347 | 165 | 32 | 1666 |
| | *TOT. AMT* | 1317711 | 1292263 | 1068570 | 1068539 | 515028 | 5213286 | 6636142 | 9446127 | 9035937 | 13600227 | 6105102 | 1232529 | 56531461 |
| | AVE. AMT* | 24862 | 30768 | 31429 | 29682 | 30296 | 30487 | 32059 | 32021 | 33842 | 39194 | 37001 | 38517 | 33932 |
| 60-64 | *NO. * | 22 | 29 | 27 | 22 | 16 | 133 | 134 | 229 | 166 | 141 | 96 | 56 | 1071 |
| | *TOT. AMT* | 549051 | 760863 | 769440 | 637583 | 504059 | 4062464 | 4206031 | 7542568 | 5687048 | 4853376 | 3603393 | 2548852 | 35724728 |
| | AVE. AMT* | 24957 | 26237 | 28498 | 28981 | 31504 | 30545 | 31388 | 32937 | 34259 | 34421 | 37535 | 45515 | 33356 |
| 65- | *NO. * | 11 | 10 | 8 | 3 | 7 | 76 | 69 | 127 | 85 | 37 | 43 | 34 | 510 |
| | *TOT. AMT* | 223305 | 197339 | 172437 | 57520 | 234261 | 2570688 | 2283885 | 4043888 | 2958276 | 1240829 | 1510289 | 1493857 | 16986574 |
| | AVE. AMT* | 20300 | 19734 | 21555 | 19173 | 33466 | 33825 | 33100 | 31842 | 34803 | 33536 | 35123 | 43937 | 33307 |
| TOTAL | *NO. * | 2591 | 1970 | 1711 | 1158 | 618 | 3771 | 2717 | 3025 | 1641 | 1068 | 476 | 124 | 20870 |
| | *TOT. AMT* | 61765100 | 51613906 | 47325050 | 33362248 | 186311571 | 116063076 | 902064161 | 103404059 | 60341289 | 40241022 | 17698842 | 53395576 | 45991722 |
| | AVE. AMT* | 23838 | 26200 | 27659 | 28810 | 30147 | 30778 | 33201 | 34183 | 36771 | 37679 | 37182 | 43061 | 30953 |

AVERAGE AGE * 41.3 * AVERAGE SERVICE * 9.9 *

DISTRIBUTION OF PENSIONERS BY YEAR OF RETIREMENT AND BY ATTAINED AGE AS OF 6/87

TOTAL OF ALL MEMBERS

| ATTAINED AGE ***** | PRE '67 *** | ** YEAR OF RETIREMENT ** | | | | | | | | | | | | | | | | | | | | TOTAL ***** | AVG AMT ***** | |
|-----------------------|----------------|--------------------------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------|------------------|---|
| | | '67 | '68 | '69 | '70 | '71 | '72 | '73 | '74 | '75 | '76 | '77 | '78 | '79 | '80 | '81 | '82 | '83 | '84 | '85 | '86 | | | |
| 0- 29 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 | 1 | 11 | 3524 | |
| 30- 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 1 | 0 | 0 | 0 | 3 | 1 | 10 | 8433 | |
| 35- 39 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 4 | 9 | 6 | 7 | 7 | 8 | 7 | 5 | 3 | 59 | 7691 | |
| 40- 44 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 8 | 5 | 2 | 10 | 4 | 15 | 7 | 9 | 6 | 3 | 8 | 5 | 86 | 7765 | |
| 45- 49 | 0 | 1 | 0 | 1 | 2 | 2 | 4 | 4 | 4 | 6 | 4 | 12 | 15 | 17 | 7 | 10 | 7 | 8 | 9 | 4 | 5 | 122 | 7015 | |
| 50- 54 | 0 | 2 | 0 | 1 | 2 | 6 | 2 | 6 | 2 | 9 | 14 | 5 | 11 | 19 | 15 | 16 | 8 | 17 | 14 | 12 | 9 | 170 | 7747 | |
| 55- 59 | 4 | 1 | 0 | 0 | 2 | 9 | 9 | 5 | 8 | 14 | 18 | 24 | 22 | 16 | 31 | 33 | 47 | 103 | 127 | 113 | 149 | 735 | 13824 | |
| 60- 64 | 11 | 5 | 6 | 6 | 4 | 15 | 9 | 16 | 22 | 24 | 32 | 49 | 131 | 116 | 119 | 139 | 270 | 220 | 178 | 144 | 191 | 1707 | 15598 | |
| 65- 69 | 25 | 13 | 10 | 10 | 13 | 15 | 33 | 38 | 68 | 91 | 119 | 187 | 226 | 189 | 206 | 220 | 213 | 190 | 163 | 103 | 112 | 2244 | 13577 | |
| 70- 74 | 46 | 25 | 23 | 35 | 34 | 64 | 65 | 114 | 85 | 174 | 202 | 161 | 177 | 150 | 104 | 112 | 82 | 56 | 59 | 28 | 27 | 1823 | 11557 | |
| 75- 79 | 168 | 56 | 58 | 50 | 59 | 80 | 87 | 129 | 95 | 121 | 116 | 83 | 59 | 40 | 31 | 31 | 22 | 7 | 6 | 6 | 3 | 1307 | 8960 | |
| 80- 84 | 317 | 58 | 61 | 46 | 37 | 50 | 68 | 79 | 37 | 42 | 25 | 7 | 4 | 1 | 2 | 1 | 1 | 1 | 0 | 1 | 0 | 838 | 8015 | |
| 85- 89 | 313 | 30 | 47 | 23 | 25 | 19 | 10 | 5 | 0 | 1 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 478 | 7342 | |
| 90- 94 | 157 | 8 | 2 | 2 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 173 | 5801 | |
| 95- 99 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 5693 | |
| 100-104 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 105-999 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOT NUM | 1076 | 199 | 208 | 174 | 178 | 261 | 289 | 398 | 324 | 491 | 537 | 531 | 661 | 564 | 540 | 577 | 667 | 618 | 566 | 429 | 506 | 9794 | | |
| AVG AMT | 5807 | 6585 | 7143 | 6187 | 6947 | 7229 | 7734 | 9748 | 9542 | 10917 | 12276 | 11543 | 12191 | 12370 | 11873 | 13252 | 16389 | 15947 | 16000 | 15943 | 16934 | | | |

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* AVG AMT * 11727
* TOT. PEN. 114857696 *

SUMMARY OF MAJOR PLAN PROVISIONS

1. Membership Requirements

First of month following employment.

2. Final Monthly Compensation

Highest 12-month average salary.

3. Service Retirement

A. Eligibility

Ten years of service and age 55, or 30 years of service any age, or age 70.

B. Allowance

"Beta" Formula - 2.16% of final monthly compensation for each year of service (reduced if retirement before age 60); however, member may retire on full accrued pension if he or she has completed at least 30 years of service and has attained age 55.

Prior Formula - 2% of final monthly compensation for each year of service (reduced if retirement before age 58-3/4).

C. Form of Payment

Monthly allowance payable for life with 50% continuance to eligible spouse. Larger continuance available as option with reduced allowance.

Los Angeles City Employees'
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4. Disability Retirement

A. Eligibility

Five or more years of continuous service and physically or mentally incapacitated so unable to perform duties of position.

B. Allowance

1/70 of final monthly compensation for each year of continuous service. If service is less than 23-1/3 years, then service is projected to retirement, with a maximum total service (actual plus projected) of 23-1/3 years.

C. Form of Payment

Monthly allowance payable for life, with 50% continuance to eligible surviving spouse if employee had that coverage at time of retirement.

5. Deferred Service Retirement

A. Eligibility

Terminate City service with five or more years of retirement credit, apply in writing within three years after termination, and agree to leave accumulated contributions on deposit.

Application required for retirement at any time after attaining age 55, provided at least 10 years have elapsed when employee first became a member, or at age 70 without any elapsed time requirement.

Los Angeles City Employees'
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B. Allowance

Same as service retirement.

C. Form of Payment

Same as service retirement.

6. Death Prior to Retirement

A. Not Eligible to Retire

The sum of:

- i. accumulated contributions,
- ii. a monthly pension to the surviving spouse, minor children, or dependent parents of the deceased member, payable for a period equal to two months times the number of completed years of service credit to a maximum period of 12 months at the rate of half of the average monthly salary for the year before death, and
- iii. if deceased member was a qualified member of the Family Death Benefit Insurance Plan, such benefits as are payable under that Plan.

B. Eligibility for Disability Retirement or Duty-Related Death

The sum of the following:

- i. 60% of the allowance the member would have received if he or she had been granted a disability retirement allowance the day before he or she died, payable for the lifetime of the member's surviving spouse, and

Los Angeles City Employees'
Retirement System

- ii. if the deceased member was a qualified member of the Family Death Benefit Insurance Plan, such benefits as are payable under the Plan.

C. Eligible for Retirement

Surviving spouse receives a lifetime survivorship allowance based on an actuarially computed percentage of the retirement allowance the member would have been entitled to if he or she had been granted an Option 1 service retirement the day before he or she died. Benefits under the Family Death Benefit Insurance Plan, if any, are not payable. The surviving spouse may elect A or B in lieu of C.

7. Death After Retirement

- A. 50% continuance to surviving eligible spouse, if covered under the plan.
- B. Upon the death of both the member and surviving spouse, designated beneficiary receives any unused contributions that may remain (provided the normal cash refund annuity was selected) and any accrued but unpaid retirement allowance due at time of death.
- C. \$500 death benefit paid to designated beneficiary of deceased member for assumption of obligation to pay burial expense.

8. Postretirement Cost-of-Living Benefits

As of each July 1, benefits currently being paid are increased (proportionately if paid less than 12 months) by the percentage increase in the Consumer Price Index (to a maximum of 3%). Increases in CPI above 3% are "banked" to apply in years when the CPI increase is less than 3%.

9. Employee Contributions

For purposes of this valuation, each member who entered the plan before February 1, 1983 is assumed to contribute to the System at the rates specified previously in the Section. These rates were recommended in our 1977 valuation and adopted through union negotiations; they are being phased in and are assumed to be totally effective after June 30, 1981. To the extent that members contribute less than the full rates, the City should make compensating contributions as discussed in Section V. Contribution rates for members not covered by the BETA formula are 8% less than rates for members covered by the BETA formula. Members who entered the plan on or after February 1, 1983 are assumed to contribute at the rate of 6%.

10. Family Death Benefit Insurance Plan

A. Eligibility

Employee may elect coverage after 18 months of City retirement service credit.

Los Angeles City Employees'
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B. Benefits

Benefits similar to those provided by Survivors' Insurance under Social Security are payable if member dies in active service after 18 months of plan membership.

C. Cost

Member and City share cost of plan (currently recommended to be \$3.50 per month contribution for each).

11. Retired Health Insurance Subsidy

A. Eligibility

Retirement after age 55 with 10 or more years of service or mandatory retirement at age 70.

B. Benefits

Up to a maximum \$261 per month. The benefits are vested at 40% after 10 years, increasing by 4% per year to 100% after 25 years of service.