

REPORT
ON THE
ACTUARIAL INVESTIGATION
AND VALUATION
OF THE
CITY EMPLOYEES' RETIREMENT SYSTEM
OF THE *June 30, 1969*
CITY OF LOS ANGELES

Made to the Board of Administration
as of June 30, 1969

February 25, 1970

OFFICES IN
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February 25, 1970

Board of Administration
City Employees' Retirement System
1103 City Hall
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Gentlemen:

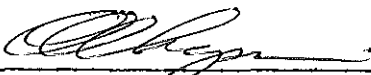
We are pleased to transmit herewith our Report on the Actuarial Investigation and Valuation of your Retirement System made as of June 30, 1969.

We will take this opportunity to express our appreciation to the Manager-Secretary and to members of his staff for the courtesy they accorded us during the course of our work and for the very excellent form in which all of the data was provided us.

We look forward to the opportunity to meet with you to discuss our findings.

Very truly yours,

COATES, HERFURTH & ENGLAND
Consulting Actuaries

By 
E. L. Chapin

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

SECTION I
INTRODUCTION

The City Employees' Retirement System was established by Article XXXIV of the City Charter. Section 505 of Article XXXIV reads in part as follows:

"The said Board of Administration ---, and shall at intervals of not to exceed five years from the time of securing the first actuarial report, cause to be made an actuarial investigation into the mortality, service, and compensation experience of the members and beneficiaries, and shall further cause to be made an actuarial valuation of the assets and liabilities of said Retirement Fund ---."

In conformance with Section 505, the Board of Administration entered into a contract with Coates, Herfurth & England to carry out an actuarial investigation covering the five year period ending June 30, 1969 and a valuation of the Retirement System as of June 30, 1969. The last previous report on an actuarial investigation was rendered as of June 30, 1964.

To provide a basis for the actuarial investigation and valuation of the System we were provided with the following information for each member and former member of the System as of June 30, 1969:

1. Punch cards containing detailed information for each active member as of June 30, 1969.
2. Punch cards containing detailed information for each retired member, joint-annuitant, surviving spouse or other individual receiving benefits from the System as of June 30, 1969.
3. Punch cards containing detailed information for each member who, during the period July 1, 1964 through June 30, 1969, either:
 - a) Terminated active status for any reason.
 - b) Terminated retired status through death or reinstatement to active service.

In addition to the above information with respect to the members of the System we were furnished with a financial statement and an accounting balance sheet of the System as of June 30, 1969. We have made no physical

audit of the assets shown on the balance sheet and our calculations are based upon the balance sheet as submitted.

We set forth in the following Section II of this report our conclusions regarding member rates of contribution; Section III contains a summary of the results of the valuation; Section IV contains our recommendation regarding future City contributions to the System; Section V contains a summary of our findings during the course of the actuarial investigation of the System; and Section VI contains a summary of the statistical information developed in the course of our work.

SECTION II

MEMBER CONTRIBUTIONS

Section 507 of Article XXXIV of the City Charter sets forth the basis for the determination of the contributions required from members of the System. Section 507 reads in part as follows:

"Each member of said Retirement System shall contribute to said Retirement Fund by salary deduction at the rate of contribution established by the Board of Administration. The rate of such contribution and deduction shall be expressed as a percentage of compensation earnable and shall be a single rate for both sexes based on age at the time of entrance into the System, and shall be such as will accumulate, on the average and on a reserve basis, a sum sufficient for the payment of an annuity of one one-hundred-twentieth (1/120th) of final compensation, multiplied by the number of years and parts thereof of city service subsequent to the first day of July, 1937. No adjustment shall be included in the rates adopted subsequent to this amendment because of any time during which members have theretofore contributed at different rates. ---"

Similar language is contained in Section 508.2 regarding the establishment of members' contributions for Continuance to Surviving Spouse benefits. Section 510.1 D provides for Cost of Living contributions from

members as a percentage increase in the normal and survivor rates already mentioned.

Section 505A(2) provides as follows:

"A. Upon the basis of such investigation and valuation the said Board of Administration shall:

(2) Revise or change the rates of contribution by members on the basis of such mortality, service and other tables."

It necessarily follows that when the results of an actuarial investigation indicate a change in the actuarial assumptions underlying the member contribution rates, the rates, themselves, must be redetermined. There are three elements which enter into the determination of member rates of contribution, namely:

1. The interest rate which may be realized on investments of the funds of the System.
2. The relative increases in the salary of a member in the period from the date of the valuation to the date of retirement.
3. The mortality rates to be experienced among persons retired for service under the System.

Each of these elements is discussed in Section V of this report. It should be noted here, however, that we were authorized by the Board of Administration to use a 4-1/4% interest assumption in our current actuarial calculations to replace the 4% interest assumption previously authorized and that we have recommended a change in the mortality rates for retired members. These changes in the interest rate and mortality assumptions

necessitate a redetermination of member rates of contribution in order to comply with the provisions of the City Charter. We set forth in Schedule I of Section VI of this report the normal and continuance member rates of contribution, based upon the new actuarial assumptions, which we recommend be adopted. These rates include cost-of-living contributions at 15% of "basic" contributions. For convenience, we show below a comparison of the present member rates of contribution and the new recommended rates of contribution for sample ages, neither including cost-of-living contributions. It should be noted that the new recommended rates of contribution are slightly less than the rates of contribution presently in use, except at the highest ages.

Comparison of Present and Recommended
Member Rates of Contribution

<u>Age</u>	<u>Present Rate</u>			<u>Recommended Rate</u>			<u>Ratio of Total Rates</u>
	<u>Normal</u>	<u>Continuance</u>	<u>Total</u>	<u>Normal</u>	<u>Continuance</u>	<u>Total</u>	
20	4.51%	.12%	4.63%	4.19%	.12%	4.31%	93%
25	4.64	.30	4.94	4.41	.28	4.69	95
30	4.87	.45	5.32	4.74	.39	5.13	96
35	5.25	.52	5.77	5.16	.47	5.63	98
40	5.72	.57	6.29	5.68	.52	6.20	99
45	6.28	.62	6.90	6.26	.57	6.83	99
50	6.91	.67	7.58	6.88	.62	7.50	99
55	7.52	.72	8.24	7.54	.67	8.21	100
59	8.00	.76	8.76	8.15	.70	8.85	101

SECTION III

RESULTS OF ACTUARIAL VALUATION

Our valuation of the Retirement System as of June 30, 1969 was based upon the following Accounting Balance Sheet furnished by the Retirement Office. As indicated earlier in this Report, this statement of assets and liabilities of the System was accepted by us without audit.

LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

ACCOUNTING BALANCE SHEET
AS OF
JUNE 30, 1969

ASSETS

FUNDS:

Cash in City Treasury	\$ 982,633.63
Cash on Hand	50.00

TOTAL CASH \$ 982,683.63

RECEIVABLES:

Accrued Interest on Bonds	\$ 2,609,869.32
Dividends Declared and Payable	1,605.00

TOTAL RECEIVABLES \$ 2,611,474.32

INVESTMENTS:

Bonds on Hand - Par Value	\$224,392,642.44
Less Bond Discount - Unamortized (Net)	<u>(1,704,579.44)</u>
Bonds on Hand at Book Value	222,688,063.00
Bonds in Transit	2,013,591.46
Stocks on Hand at Cost	<u>13,815,963.02</u>

TOTAL INVESTMENTS 238,517,617.48

TOTAL ASSETS \$242,111,775.43

LIABILITIES

Accounts Payable \$ 425,110.55

RESERVES:

Accumulated Contributions of Members	\$ 92,036,211.16
Annuities and Interest Thereon	25,569,358.95
Prior Service	7,009,150.53
Subsequent Service	96,237,064.08
Disability Allowances	4,308,569.66
Death Benefits	10,827,190.16
Cost of Living (Section 510.1)	4,240,091.02
Family Death Benefit Insurance	<u>773,316.56</u>

TOTAL RESERVES \$241,000,952.12

SURPLUS:

Undistributed Interest	\$ 32,161.40
Reserve for Investment Fluctuation	528,814.39
Surplus	<u>124,736.97</u>

TOTAL SURPLUS \$ 685,712.76

TOTAL LIABILITIES \$242,111,775.43

An actuarial valuation of the City Employees' Retirement System of the City of Los Angeles was carried out as of June 30, 1969 on the basis of the actuarial assumptions developed during the course of the investigation and which are discussed in Section V of this report. The following Actuarial Balance Sheet sets forth the assets and liabilities developed by this valuation.

LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

ACTUARIAL BALANCE SHEET

ACTUARIAL VALUATION OF ASSETS AND LIABILITIES
AS OF JUNE 30, 1969

ASSETS

1.	Total Assets from Accounting Balance Sheet		\$242,111,775.43
2.	Present Value of Future Contributions, of Members		95,791,671.00
3.	Present Value of Future Contributions by the City on Account of:		
	(a) Subsequent Service Pensions and Continuance to Eligible Spouse Future Service Benefits	\$88,959,262.97	
	(b) Disability Pensions	2,879,111.34	
	(c) Death Benefits	3,920,671.53	
	(d) Prior Service Pensions and Minimum Pensions	8,824,005.47	
	(e) Continuance to Eligible Spouse Prior Service Benefits	8,317,840.00	
	(f) Cost of Living Pensions, Service Prior to July 1, 1967	29,091,559.00	
	(g) Cost of Living Pensions, Future Service	<u>13,748,045.98</u>	<u>155,740,496.29</u>
4.	TOTAL ASSETS		<u>\$493,643,942.72</u>

LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

ACTUARIAL BALANCE SHEET

(Continued)

LIABILITIES

5.	Accounts Payable		\$	425,110.55
6.	Limited Pensions Payable			103,245.69
7.	Death Benefits Payable			12,500.00
8.	Service Retirement Allowances Now Being Paid:			
	(a) Annuities	\$ 21,387,515.00		
	(b) Subsequent Service Pensions	45,957,601.00		
	(c) Prior Service Pensions and Minimum Pensions	13,874,406.00		
	(d) Cost of Living Pensions	<u>6,922,382.00</u>		88,141,904.00
9.	Disability Allowances Now Being Paid:			
	(a) Annuities	\$ 846,597.00		
	(b) Disability Pensions and Minimum Pensions	2,775,401.00		
	(c) Cost of Living Pensions	<u>277,159.00</u>		3,899,157.00
10.	Survivorship Death Allowances Now Being Paid:			
	(a) Annuities	\$ 1,080,530.00		
	(b) Survivorship Pensions	2,961,176.00		
	(c) Cost of Living Pensions	<u>476,497.00</u>		4,518,203.00
11.	Service Retirement Allowances to be Granted in the Future For:			
	(a) Subsequent Service	\$263,030,117.00		
	(b) Prior Service and Minimum	<u>1,728,136.00</u>		264,758,253.00

LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

ACTUARIAL BALANCE SHEET
(Continued)

LIABILITIES (Continued)

12.	Cost of Living Pensions to be Granted in the Future For:		
	(a) Active Members	\$ 38,168,193.00	
	(b) Retired Members	<u>11,692,143.00</u>	\$ 49,860,336.00
13.	Disability Allowances to be Granted in the Future		9,529,482.00
14.	Death Benefits to be Granted in the Future		30,246,077.99
15.	Contributions to be Returned upon Withdrawal:		
	(a) Past	\$ 19,659,934.00	
	(b) Future	<u>20,018,635.00</u>	39,678,569.00
16.	Investment Reserve, Undistributed Interest, and Surplus		685,712.76
17.	Contributions of Inactive Members		1,012,075.17
18.	Family Death Benefit Insurance Reserve		<u>773,316.56</u>
19.	TOTAL LIABILITIES		<u>\$493,643,942.72</u>

SECTION IV
RECOMMENDATIONS

Based on the actuarial investigation and valuation of the Retirement System as of June 30, 1969, we respectfully submit the following recommendations in accordance with the provisions of Article XXXIV of the City Charter.

1. Interest Rate

We concur with the Board of Administration in its authorization to us to use an interest rate of 4-1/4% per annum, compounded annually.

2. We recommend that the Retirement Board adopt operating tables for use in the administration of the System, to be furnished by the actuary, based upon the above mentioned interest rate and on the table of mortality for service retirement set forth in Schedules 2 and 3 of Section VI of this report and the table of mortality for disability retirement set forth in Schedule 4 of said Section VI.

3. Contribution of Members

As we indicated in Section II of this report, the change in actuarial assumptions necessitates a change in member rates of contribution. The recommended member rates of contribution are set forth in Schedule 1 of Section VI of this report.

4. City Contributions for the Fiscal Year 1970-1971

- (a) For subsequent service pensions, continuance to eligible spouse future service benefits, disability pensions, death benefits and cost of living future service pensions, 7.163% of the compensation of members covered by the System.

The 7.163% rate is made up as follows:

Subsequent Service Pensions and Continuance to Eligible Spouse Benefits	5.820%
Disability Pensions	.188%
Death Benefits	.256%
Cost of Living Future Service	<u>.899%</u>
Total	7.163%

- (b) For prior service pensions and minimum pensions; \$544,926.00.

Annual contributions of this amount will liquidate the unfunded liability of \$8,824,005.47 for such pensions by June 30, 1997.

- (c) For continuance to eligible spouse benefits applicable to service rendered to June 30, 1965; \$606,627.00. Annual contributions of this amount will liquidate the unfunded liability of \$8,317,840.00 for such benefits over the period ending June 30, 1990.

- (d) For Cost of Living Benefits, Service to June 30, 1967; \$1,796,547.00. Annual Contributions of this amount will liquidate the unfunded liability of \$29,091,559.00 for such benefits over the period ending June 30, 1997.

(e) For the Family Death Benefit Insurance Plan; \$2.16 per month for each participating member.

We propose that the recommendations outlined above be made effective as of July 1, 1970. We believe this to be necessary in order to provide adequate time for the preparation of the operating tables and to make the necessary administrative changes in order to put the recommendations into effect.

In our opinion, if the above recommendations are adopted, the Retirement System will be maintained on a sound actuarial basis and in accordance with Article XXXIV of the City Charter.

COMMENTS

The total City contributions recommended above represent an increase of approximately 11% over the contributions which would have been produced by the results of our prior valuation made as of June 30, 1968. An analysis of the funding calculations reveals that approximately 60% of this increase is directly attributable to the 5.5% wage increase which became effective July 1, 1969, the balance being attributable to the combined result of all of the recommended changes in the actuarial assumptions together with the growth in the membership in the System.

SECTION V

SUMMARY OF ACTUARIAL INVESTIGATION

Before an actuarial valuation of the assets and liabilities of the System can be made, City contributions determined and member rates of contribution calculated, it is necessary to adopt a long range interest assumption together with assumptions as to the following contingencies:

1. The relative increases in the salary of a member from the date of valuation to the date of retirement.
2. The mortality rates to be experienced among persons retired for service.
3. The mortality rates to be experienced among persons retired for disability.
4. The rates at which members separate from active service on account of:
 - (a) Withdrawal
 - (b) Death
 - (c) Disability
 - (d) Service Retirement

It is necessary to carry out an actuarial investigation into the experience of the members of the System in order to determine the best assumptions with respect to the aforementioned contingencies. We have carried out such an actuarial investigation of your Retirement System

will result from a cheapening of the dollar in the future due to inflation.

An examination of the index numbers referred to above led to our conclusion that the salary scales adopted as of June 30, 1964 are appropriate for continued use.

The salary scales referred to above are shown in Schedule 5 of Section VI of this report.

MORTALITY AFTER SERVICE RETIREMENT

The results of the investigation indicate that both male and female members retired for service experienced lower mortality than heretofore assumed, namely, the "1946 Service Pensioner Mortality Table", with ages set back one year for male members and three years for female members. Accordingly, we have recommended the adoption of the "1951 Group Annuity Mortality Table" for male and female members, with no set-back in ages.

The rates of mortality after service retirement referred to above are set forth in Schedules 2 and 3 of Section VI of this report.

MORTALITY AFTER DISABILITY RETIREMENT

The combined experience of male and female members retired for disability followed fairly closely that which was expected based upon the mortality after disability retirement assumption in current use. This table, designated as the "1943 Disability Mortality Table" has therefore been recommended for continued use.

The rates of mortality after disability retirement referred to above are set forth in Schedule 4 of Section VI of this report.

RATES OF WITHDRAWAL

The financial effect on the System of members withdrawing from service within the first few years of their employment is negligible. Therefore, we have examined the experience of members of the System having three or more years of service and find that significant changes have occurred for both male and female members as to the incidence of withdrawal by age. That is, substantially more female members are withdrawing at all ages, while male members have shown a decrease at the higher ages and an increase at the lower ages. Consequently, we adopted for use in the current valuation rates of withdrawal which more nearly reflect the changed pattern just described.

The rates of withdrawal referred to above are set forth in Schedules 6 and 7 of Section VI of this report.

MORTALITY BEFORE RETIREMENT

The results of the investigation indicate that male and female members are experiencing rates of mortality before retirement approximately the same as the rates of mortality before retirement heretofore used. Consequently, we have made no change in the rates of mortality before retirement in the current valuation of the System.

The current rates of mortality referred to above are shown in Schedules 6 and 7 of Section VI of this report.

DISABILITY

The experience of both male and female members during the past five years indicates that far more members are becoming disabled than was

previously the case. Consequently, rates of disability retirement were adopted for male and female members which more nearly reflect the actual experience.

The rates of disability retirement referred to above are set forth in Schedules 6 and 7 of Section VI of this report.

SERVICE RETIREMENT

The experience of both male and female members during the past five years indicates that there has been a significant decrease in the average age at which members retire. Consequently, rates of service retirement were adopted for use in the current valuation which reflect this trend.

The rates of service retirement referred to above are shown in Schedules 6 and 7 of Section VI of this report.

SECTION VI

STATISTICAL INFORMATION

LIST OF SCHEDULES

Schedule

1. Recommended Member Rates of Contribution.
2. Rates of Mortality after Service Retirement - Male Members.
3. Rates of Mortality after Service Retirement - Female Members.
4. Rates of Mortality after Disability Retirement.
5. Salary Scales.
6. Rates of Withdrawal, Mortality, Disability, Service Retirement - Male Members.
7. Rates of Withdrawal, Mortality, Disability, Service Retirement - Female Members.
8. Number of Active Members and Total Monthly Salary By Sex and Attained Age.
9. Number and Amount of Retirement Allowances in Effect.

SCHEDULE 1(a)

LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

RECOMMENDED MEMBER NORMAL PLUS NORMAL PORTION OF
COST OF LIVING RATES OF CONTRIBUTION
BASED ON 4-1/4% INTEREST RATE ASSUMPTION

<u>Age</u>	<u>"Normal" Contribution Rate</u>	<u>Age</u>	<u>"Normal" Contribution Rate</u>
16	4.63%	40	6.53%
17	4.68	41	6.66
18	4.73	42	6.79
19	4.77	43	6.92
		44	7.06
20	4.82	45	7.20
21	4.86	46	7.34
22	4.91	47	7.48
23	4.96	48	7.61
24	5.01	49	7.76
25	5.07	50	7.91
26	5.14	51	8.06
27	5.21	52	8.21
28	5.29	53	8.36
29	5.37	54	8.51
30	5.45	55	8.67
31	5.53	56	8.84
32	5.62	57	9.02
33	5.72	58	9.19
34	5.82	59	9.37
35	5.93		
36	6.05		
37	6.16		
38	6.28		
39	6.41		

SCHEDULE 1(b)

LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

RECOMMENDED MEMBER SURVIVOR PLUS SURVIVOR PORTION OF
COST OF LIVING RATES OF CONTRIBUTION
BASED ON 4-1/4% INTEREST RATE ASSUMPTION

<u>Age</u>	<u>"Survivor" Contribution Rate</u>	<u>Age</u>	<u>"Survivor" Contribution Rate</u>
16	.09%	45	.66%
17	.10	46	.67
18	.12	47	.68
19	.13	48	.69
		49	.70
20	.14		
21	.16	50	.71
22	.20	51	.72
23	.24	52	.74
24	.29	53	.75
		54	.76
25	.32		
26	.36	55	.77
27	.38	56	.78
28	.40	57	.79
29	.43	58	.81
		59 and Over	.81
30	.45		
31	.47		
32	.49		
33	.52		
34	.53		
35	.54		
36	.55		
37	.56		
38	.58		
39	.59		
40	.60		
41	.61		
42	.62		
43	.63		
44	.64		

SCHEDULE 1(c)

LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

RECOMMENDED MEMBER NORMAL PLUS SURVIVOR PLUS
COST OF LIVING RATES OF CONTRIBUTION
BASED ON 4-1/4% INTEREST RATE ASSUMPTION

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>
		40	7.13%
16	4.72%	41	7.27
17	4.78	42	7.41
18	4.85	43	7.55
19	4.90	44	7.70
20	4.96	45	7.86
21	5.02	46	8.01
22	5.11	47	8.16
23	5.20	48	8.30
24	5.30	49	8.46
25	5.39	50	8.62
26	5.50	51	8.78
27	5.59	52	8.95
28	5.69	53	9.11
29	5.80	54	9.27
30	5.90	55	9.44
31	6.00	56	9.62
32	6.11	57	9.81
33	6.24	58	10.00
34	6.35	59	10.18
35	6.47		
36	6.60		
37	6.72		
38	6.86		
39	7.00		

SCHEDULE 2

LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

MALE MEMBERS

Rates of Mortality after Service Retirement

<u>Age</u>	<u>Rate of Mortality</u>	<u>Age</u>	<u>Rate of Mortality</u>
55	.010436	85	.146852
56	.011346	86	.156836
57	.012298	87	.167120
58	.013302	88	.177787
59	.014379	89	.188919
60	.015555	90	.200594
61	.016866	91	.212555
62	.018353	92	.225161
63	.020068	93	.238524
64	.022067	94	.252765
65	.024418	95	.268025
66	.027193	96	.284455
67	.030112	97	.302223
68	.032986	98	.321515
69	.035943	99	.342526
70	.039303	100	.365462
71	.043183	101	.390538
72	.047476	102	.417979
73	.052084	103	.450096
74	.057077	104	.489201
75	.062427	105	.537605
76	.068347	106	.597619
77	.075132	107	.671554
78	.082687	108	.761722
79	.090946	109	.870434
80	.099679	110	.999999
81	.108706		
82	.117979		
83	.127437		
84	.137073		

SCHEDULE 3

LOS ANGELES CITY EMPLOYEES' RETIREMENT PLAN

FEMALE MEMBERS

Rates of Mortality after Service Retirement

<u>Age</u>	<u>Rate of Mortality</u>	<u>Age</u>	<u>Rate of Mortality</u>
55	.004648	85	.112328
56	.005102	86	.121295
57	.005637	87	.130885
58	.006265	88	.141188
59	.006997	89	.152300
60	.007837	90	.164331
61	.008788	91	.177144
62	.009848	92	.191099
63	.011010	93	.206341
64	.012264	94	.223029
65	.013597	95	.241336
66	.014991	96	.261451
67	.016457	97	.283581
68	.018198	98	.307953
69	.020354	99	.334812
70	.023098	100	.364429
71	.026527	101	.397100
72	.030468	102	.433150
73	.034779	103	.472930
74	.039413	104	.518156
75	.044309	105	.570545
76	.049512	106	.631813
77	.055108	107	.703676
78	.061093	108	.787851
79	.067459	109	.886054
80	.074146	110	.999999
81	.081114		
82	.088374		
83	.095943		
84	.103904		

SCHEDULE 4

LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

MALE AND FEMALE MEMBERS

Rates of Mortality after Disability Retirement

<u>Age</u>	<u>Rate of Mortality</u>	<u>Age</u>	<u>Rate of Mortality</u>
25	.0391	55	.0416
26	.0352	56	.0426
27	.0329	57	.0436
28	.0319	58	.0448
29	.0315	59	.0462
30	.0314	60	.0476
31	.0315	61	.0491
32	.0316	62	.0507
33	.0318	63	.0525
34	.0319	64	.0544
35	.0321	65	.0563
36	.0323	66	.0586
37	.0325	67	.0612
38	.0327	68	.0635
39	.0329	69	.0664
40	.0332	70	.0694
41	.0335	71	.0726
42	.0338	72	.0759
43	.0341	73	.0796
44	.0345	74	.0836
45	.0349	75	.0879
46	.0354	76	.0925
47	.0359	77	.0976
48	.0364	78	.1029
49	.0370	79	.1085
50	.0376		
51	.0383		
52	.0390		
53	.0398		
54	.0406		

SCHEDULE 5

LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

SALARY SCALES

<u>Age</u>	<u>Male</u>	<u>Female</u>	<u>Age</u>	<u>Male</u>	<u>Female</u>
20	603	651	45	917	947
21	620	666	46	925	955
22	641	681	47	932	960
23	659	696	48	938	966
24	677	713	49	944	970
25	694	728	50	950	974
26	710	743	51	956	977
27	725	758	52	962	979
28	740	774	53	966	981
29	753	787	54	970	985
30	765	800	55	975	987
31	778	813	56	978	989
32	790	825	57	981	991
33	802	836	58	984	992
34	814	847	59	988	994
35	824	858	60	991	994
36	836	870	61	993	996
37	846	879	62	996	996
38	857	891	63	997	998
39	866	900	64	999	998
40	874	909	65	1000	1000
41	883	919			
42	892	926			
43	901	934			
44	910	942			

6/30/69

SCHEDULE 6

LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

*Rates of Withdrawal, Mortality, Disability, Service Retirement

Male Members

<u>Age</u>	<u>Withdrawal</u>	<u>Mortality</u>	<u>Disability</u>	<u>Service Retirement</u>
20	.1880	.0003		
21	.1720	.0003		
22	.1550	.0004		
23	.1395	.0004		
24	.1250	.0004		
25	.1120	.0005		
26	.1005	.0005		
27	.0910	.0006		
28	.0825	.0006		
29	.0755	.0007		
30	.0695	.0007	.0001	
31	.0635	.0008	.0002	
32	.0580	.0009	.0002	
33	.0530	.0009	.0002	
34	.0480	.0010	.0002	
35	.0435	.0011	.0002	
36	.0390	.0012	.0003	
37	.0355	.0013	.0003	
38	.0320	.0015	.0004	
39	.0290	.0016	.0005	
40	.0265	.0018	.0006	
41	.0245	.0020	.0007	
42	.0230	.0021	.0008	
43	.0220	.0022	.0009	
44	.0210	.0024	.0010	
45	.0205	.0026	.0012	
46	.0200	.0029	.0013	
47	.0195	.0031	.0014	
48	.0190	.0033	.0016	
49	.0190	.0036	.0018	
50	.0190	.0041	.0020	
51	.0185	.0044	.0022	
52	.0185	.0048	.0024	
53	.0180	.0054	.0026	
54	.0180	.0059	.0028	

SCHEDULE 6

LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

*Rates of Withdrawal, Mortality, Disability, Service Retirement

(Continued)

Male Members

<u>Age</u>	<u>Withdrawal</u>	<u>Mortality</u>	<u>Disability</u>	<u>Service Retirement</u>
55	.0175	.0066	.0030	.0150
56	.0165	.0074	.0031	.0050
57	.0160	.0081	.0032	.0150
58	.0150	.0089	.0033	.0250
59	.0140	.0099	.0034	.0300
60	.0125	.0110		.0750
61	.0110	.0123		.0500
62	.0090	.0136		.0750
63	.0065	.0150		.0850
64	.0035	.0166		.0950
65		.0184		.1850
66		.0203		.1450
67		.0225		.1500
68		.0243		.1500
69		.0267		.4500
70				1.0000

*Probability of Occurrence within one year.

SCHEDULE 7

LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

*Rates of Withdrawal, Mortality, Disability, Service Retirement

Female Members

<u>Age</u>	<u>Withdrawal</u>	<u>Mortality</u>	<u>Disability</u>	<u>Service Retirement</u>
20	.2440	.0002		
21	.2290	.0002		
22	.2150	.0002		
23	.2020	.0002		
24	.1900	.0003		
25	.1780	.0004		
26	.1670	.0004		
27	.1560	.0005		
28	.1460	.0005		
29	.1365	.0006		
30	.1280	.0006	.0001	
31	.1205	.0007	.0001	
32	.1140	.0007	.0001	
33	.1085	.0008	.0001	
34	.1030	.0009	.0001	
35	.0975	.0009	.0002	
36	.0920	.0010	.0002	
37	.0865	.0010	.0002	
38	.0815	.0011	.0003	
39	.0765	.0012	.0003	
40	.0720	.0013	.0004	
41	.0680	.0014	.0005	
42	.0640	.0015	.0006	
43	.0600	.0015	.0008	
44	.0565	.0016	.0010	
45	.0535	.0017	.0012	
46	.0510	.0018	.0014	
47	.0485	.0019	.0014	
48	.0465	.0020	.0016	
49	.0445	.0021	.0018	
50	.0425	.0022	.0020	
51	.0405	.0024	.0024	
52	.0385	.0026	.0028	
53	.0365	.0028	.0032	
54	.0345	.0030	.0036	

SCHEDULE 7

LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

*Rates of Withdrawal, Mortality, Disability, Service Retirement

(Continued)

Female Members

<u>Age</u>	<u>Withdrawal</u>	<u>Mortality</u>	<u>Disability</u>	<u>Service Retirement</u>
55	.0325	.0033	.0040	.0250
56	.0300	.0036	.0040	.0400
57	.0275	.0039	.0040	.0200
58	.0250	.0043	.0040	.0200
59	.0225	.0047	.0040	.0750
60	.0195	.0052		.1250
61	.0165	.0057		.0900
62	.0130	.0065		.0900
63	.0090	.0073		.1250
64	.0050	.0081		.1350
65		.0091		.1700
66		.0105		.1500
67		.0121		.1500
68		.0139		.1500
69		.0159		.5850
70				1.0000

*Probability of Occurrence Within one Year.

SCHEDULE 8

LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

Number of Active Members and Total Monthly Salary
By Sex and Nearest Age

Age	Male		Female		Total	
	Number	Salary	Number	Salary	Number	Salary
20 and under	114	\$ 58,781	342	\$159,965	456	\$218,746
21	53	28,031	181	87,116	234	115,147
22	79	44,948	198	99,518	277	144,466
23	163	106,844	183	99,258	346	206,102
24	195	130,154	176	97,197	371	227,351
25	223	157,013	174	99,068	397	256,081
26	247	176,164	148	84,023	395	260,187
27	271	203,987	124	72,891	395	276,878
28	236	182,019	122	77,847	358	259,866
29	282	211,710	102	64,935	384	276,645
30	263	203,697	88	52,758	351	256,455
31	307	237,411	74	45,433	381	282,844
32	307	237,856	89	53,309	396	291,165
33	258	204,159	73	46,393	331	250,552
34	293	235,452	59	34,565	352	270,017
35	314	251,871	63	38,843	377	290,714
36	322	266,569	47	31,576	369	298,145
37	301	240,920	52	34,701	353	275,621
38	315	265,380	72	45,673	387	311,053
39	308	251,451	74	47,417	382	298,868
40	338	289,083	74	48,807	412	337,890
41	324	279,187	81	51,224	405	330,411
42	354	313,842	68	43,375	422	357,217
43	357	307,865	76	49,449	433	357,314
44	426	385,964	64	40,393	490	426,357
45	377	338,118	83	51,738	460	389,856
46	424	377,424	87	58,797	511	436,221
47	428	385,471	71	44,550	499	430,021
48	427	383,793	78	49,309	505	433,102
49	394	352,222	75	48,993	469	401,215

SCHEDULE 8

LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

Number of Active Members and Total Monthly Salary
By Sex and Age Nearest Birthday

Age	Male		Female		Total	
	Number	Salary	Number	Salary	Number	Salary
50	382	\$ 332,000	76	\$ 49,766	458	\$ 381,766
51	374	328,982	77	50,300	451	379,282
52	352	317,933	80	55,408	432	373,341
53	365	322,030	62	43,033	427	365,063
54	307	287,632	87	54,262	394	341,894
55	325	276,549	66	45,536	391	322,085
56	300	257,632	58	39,887	358	297,519
57	262	220,632	54	36,684	316	257,316
58	195	175,970	75	49,978	270	225,948
59	229	197,533	59	41,264	288	238,797
60	194	167,829	49	32,445	243	200,274
61	192	168,081	46	32,207	238	200,288
62	164	144,442	37	25,807	201	170,249
63	127	116,429	44	29,377	171	146,306
64	105	89,998	27	19,445	132	109,443
65	101	87,052	21	15,416	122	102,468
66	74	64,698	23	15,334	97	80,032
67	57	52,996	14	11,701	71	64,697
68	41	41,220	8	5,136	49	46,356
69	41	36,628	15	10,369	56	46,997
70 and over	14	12,759	2	1,483	16	14,242
Total	12,901	\$10,806,411	4,178	\$2,524,459	17,079	\$13,330,870

SCHEDULE 9

LOS ANGELES CITY EMPLOYEES' RETIREMENT SYSTEM

Number and Amount of Retirement Allowances In Effect

	<u>Number</u>	<u>Monthly Allowance</u>				<u>Total</u>
		<u>Minimum</u>	<u>Past Service or Disability</u>	<u>Subsequent Service</u>	<u>Annuity</u>	
<u>Service Retirement</u>						
Male	2,124	\$10,502.36	\$103,179.91	\$304,753.31	\$123,809.68	\$542,245.26
Female	<u>938</u>	<u>3,972.73</u>	<u>29,752.52</u>	<u>90,554.44</u>	<u>40,951.17</u>	<u>165,230.86</u>
Total	3,062	\$14,475.09	\$132,932.43	\$395,307.75	\$164,760.85	\$707,476.12
<u>Disability Retirement</u>						
Male	141	\$ 856.25	\$ 15,166.05	\$ 1,053.02	\$ 4,254.65	\$ 21,329.97
Female	<u>82</u>	<u>397.82</u>	<u>6,082.84</u>	<u>1,259.30</u>	<u>1,989.40</u>	<u>9,729.36</u>
Total	223	\$ 1,254.07	\$ 21,248.89	\$ 2,312.32	\$ 6,244.05	\$ 31,059.33
<u>Survivorship</u>						
Male	3	\$ 7.63	\$ 69.64	\$ 352.56	\$ 132.94	\$ 562.77
Female	<u>165</u>	<u>746.24</u>	<u>6,378.50</u>	<u>15,601.06</u>	<u>7,391.38</u>	<u>30,117.18</u>
Total	168	\$ 753.87	\$ 6,448.14	\$ 15,953.62	\$ 7,524.32	\$ 30,679.95
Grand Total	3,453	\$16,483.03	\$160,629.46	\$413,573.69	\$178,529.22	\$769,215.40