

**THE LOS ANGELES CITY  
EMPLOYEES' RETIREMENT SYSTEM  
ANNUAL ACTUARIAL VALUATION  
June 30, 2002**

Submitted to  
BOARD OF ADMINISTRATION

The Los Angeles City Employees' Retirement System  
June 30, 2002 Actuarial Valuation

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October 17, 2002

Board of Administration  
City Employees' Retirement System  
360 East Second Street, 8<sup>th</sup> Floor  
Los Angeles, CA 90012

Members of the Board:

Results of the regular Annual Actuarial Valuation as of June 30, 2002 of The Los Angeles City Employees' Retirement System are summarized. The valuation is intended to provide a measure of the funding status of the retirement system and health subsidy benefits. This valuation forms the basis for the City contribution rates for the year beginning July 1, 2003.

<b>CONTRIBUTIONS</b>	<b>RETIREMENT</b>	<b>HEALTH</b>
Normal Costs	10.58%	1.83%
Unfunded Amortization	(1.36)%	0 .02%
<b>TOTAL</b>	<b>9.22%</b>	<b>1.85%</b>

The member statistical data on which the valuation was based was furnished by LACERS, together with pertinent data on financial operations. Data was reviewed for reasonableness, but was not audited by the actuary.

There was an overall actuarial loss of \$241.0 million, which reflects 3.3% of related actuarial accrued liabilities as of June 30, 2001. This is in addition to a \$560 million liability increase attributed to assumption and benefit changes.

The cooperation of LACERS in furnishing materials requested for this valuation is deeply acknowledged with appreciation.

Respectfully submitted,

GABRIEL, ROEDER, SMITH & COMPANY

Rick A. Roeder, E.A., F.S.A., M.A.A.A.

Los Angeles City Employees' Retirement System

**Summary of Significant Valuation Results**

	<u>June 30, 2002</u>	<u>June 30, 2001</u>	<u>Percent Change</u>
I. Total Membership			
A. Active Members	25,930	25,654	1.1%
B. Pensioners	13,589	13,365	1.7%
II. Salaries at June 30			
A. Total Annual Payroll	\$1,334,335,478	\$1,293,350,061	3.2%
B. Average Monthly Salary	\$4,288	\$4,201	2.1%
III. Benefits to Current Pensioners and			
A. Total Annual Benefits prior to 7/1 COLA	\$336,437,038	\$316,057,216	6.4%
B. Average Monthly Benefit Amount	\$2,063	\$1,971	4.7%
IV. Total System Assets (Actuarial Value)			
A. Actuarial Value	\$7,934,761,638	\$7,853,296,534	1.0%
B. Market Value	\$6,713,940,288	\$7,325,308,818	(8.3%)
V. Unfunded Actuarial Accrued			
A. Retirement Benefits	\$191,930,161	(\$520,716,053)	N/A
B. Health Subsidy Benefits	\$78,047,910	(\$37,079,192)	N/A
VI. Budget Items	<u>FY 2003-2004</u>	<u>FY 2002-2003</u>	
A. Retirement Benefits			
1. Normal Cost as a Percent of Pay	10.58%	8.56%	23.6%
2. Amortization of Unfunded Actuarial Accrued Liability	(1.36%)	(4.72%)	71.2%
3. Total Retirement Contribution	9.22%	3.84%	140.1%
B. Health Subsidy Contribution, as a Percent	1.85%	1.98%	(6.6%)
C. Total Contribution (A+B)	11.07%	5.82%	90.2%
VII. Funded Ratio			
(Based on Actuarial Value of Assets)			
A. Retirement Benefits	97.4%	108.1%	(9.9%)
B. Health Subsidy Benefits	91.6%	104.6%	(12.4%)
C. Total	96.7%	107.7%	(10.2%)
(Based on Market Value of Assets)			
D. Retirement Benefits	82.4%	100.8%	(18.3%)
E. Health Subsidy Benefits	77.5%	97.6%	(20.6%)
F. Total	81.8%	100.4%	(18.5%)

**FINANCIAL PRINCIPLES  
AND  
OPERATIONAL TECHNIQUES**

Los Angeles City Employees' Retirement System  
**Financial Principles and Operational Techniques**

Promises Made, and To Be Paid For. As each year is completed, the Retirement System in effect hands an “IOU” to each member then acquiring a year of service credit – the “IOU” says: “The Los Angeles City Employees’ Retirement System owes you one year’s worth of retirement benefits, payments in cash commencing when you qualify for retirement.”

The related key financial questions are:

Which generation of taxpayers contributes the money to cover the IOU?

The present taxpayers, who receive the benefit of the member’s present year of service?

Or the future taxpayers, who happen to be in Los Angeles City at the time the IOU becomes a cash demand, years and decades later?

The principle of level percent of payroll financing intends that this year’s taxpayers contribute the money to cover the IOUs being handed out this year. By following this principle, the employer contribution rate will remain approximately level from generation to generation (after funding of the system’s initial unfunded liability is addressed) – our children and our grandchildren will contribute the same percents of active payroll we contribute now.

(There are systems which have a design for deferring contributions to future taxpayers, lured by a lower contribution rate now and putting aside the consequence that the contribution rate must then relentlessly grow much greater over decades of time.)

An inevitable by-product of the level-cost design is the accumulation of reserve assets, for decades, and income produced when the assets are invested. Invested assets are a by-product and not the objective. Investment income becomes, in effect, the 3<sup>rd</sup> contributor for benefits to employees, and is interlocked with the contribution amounts required from employees and employer.

(Concluded on next page)

Los Angeles City Employees' Retirement System  
**Financial Principles and Operational Techniques**

(Concluded)

Translated to actuarial terminology, this level-cost objective means that the contribution rates must total at least the following:

Current Cost (the cost of members' service being rendered this year) . . .

plus. . .

Interest on Unfunded Accrued Liabilities (unfunded accrued liabilities are the difference between (i) liabilities for service already rendered and (ii) the accrued assets of the plan).

Computing Contributions To Support System Benefits. From a given schedule of benefits and from the employee data and asset data furnished, the actuary determines the contribution rates to support the benefits, by means of an actuarial valuation and a funding method.

An actuarial valuation has a number of ingredients such as: the rate of investment return which plan assets will earn; rates of withdrawal of active members who leave covered employment; rates of mortality; rates of disability; rates of pay increases; and the assumed age or ages at actual retirement. In an actuarial valuation assumptions must be made as to what the above rates will be, for the next year and for decades in the future. Only the subsequent actual experience of the plan can indicate the degree of accuracy of the assumptions.

Reconciling Differences Between Assumed Experience and Actual Experience. Once actual experience has occurred and been observed, it will not coincide exactly with assumed experience, regardless of the wisdom behind the various financial assumptions or the skill of the actuary and the millions of calculations made. The future can be predicted with considerable but not complete precision, except for inflation which defies reliable prediction.

The System copes with these continually changing differences by having annual actuarial valuations. Each actuarial valuation is a complete recalculation of assumed future experience, taking into account all past differences between assumed and actual experience. The result is continual adjustments in the computed employer contribution rates.

The financing diagram on the opposite page shows the relationship between the two fundamentally different philosophies of paying for retirement benefits: the method where contributions match cash benefit payments (or barely exceed cash benefit payments, as in the Federal Social Security program) which is an increasing contribution method; and the level contribution method which equalizes contributions between the generations.

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The actuarial valuation is the mathematical process by which the level contribution rate is determined. The flow of activity constituting the valuation may be summarized as follows:

A. Covered people data, furnished by LACERS, including:

- Retired lives now receiving benefits
- Former employees with vested benefits not yet payable
- Active employees

B. + Asset data (cash & investments), furnished by LACERS

C. + Assumptions concerning future experience in various risk areas, which are established by the Board after consulting with the actuary

D. + The funding method for employer contributions (the long-term, planned pattern for employer contributions)

E. + Mathematically combining the assumptions, the funding method, and the data

F. = Determination of:

- Plan Financial Position and/or
- Employer's New Contribution Rate



**VALUATION RESULTS  
&  
COMMENTS**

Los Angeles City Employees' Retirement System

June 30, 2002

**FUNDING OBJECTIVE**

The funding objective of the Retirement System is to establish and receive contributions, expressed as percents of active member payroll, which will remain approximately level from year to year and will not have to be increased for future generations of citizens.

**CONTRIBUTION RATES**

LACERS is supported by member contributions, City contributions, and investment income from Fund assets.

Contributions which satisfy the funding objective are determined by the annual actuarial valuation and are intended to:

1. cover the actuarial present value of benefits allocated to the current year by the actuarial cost method (the normal cost); and
2. finance over a period of future years the actuarial present value of benefits not covered by valuation assets and anticipated future normal costs (unfunded actuarial accrued liability).

Computed contributions for the fiscal year beginning July 1, 2003 are shown on the following pages.

Los Angeles City Employees' Retirement System

**Computed Contribution Rates**

(Expressed as Percents of Active Payroll)

Valuation Date	<u>Retirement</u>		<u>Health Subsidy</u>	
	<u>2002</u>	<u>2001</u>	<u>2002</u>	<u>2001</u>
Applying to Fiscal Year	2003-04	2002-03	2003-04	2002-03
Normal Cost	10.58%	8.56%	1.83%	2.54%
UAAL Amortization	(1.36)%	(4.72)%	0.02%	(0.56)%
<b>Total City Contribution</b>	9.22%	3.84%	1.85%	1.98%

The above contributions are **exclusive** of applicable “picked up” employee contributions and assume contributions are made, on average, mid-year.

Ongoing unfunded actuarial accrued liabilities (UAAL) are a byproduct of actuarial gains and losses, as well as benefit, assumption and methodology changes. Each valuation generates an actuarial gain (loss) for each group valued. Each year's gain (loss) is amortized over fifteen years. Liability changes due to assumption changes and most benefit increases have been amortized over thirty years. Amortization is expressed as a percent-of-payroll and added to (or subtracted from) computed normal costs.



Los Angeles City Employees' Retirement System  
**Computed Contribution Rates – Retirement Benefits**

June 30, 2002

(Expressed as Percents of Active Payroll)

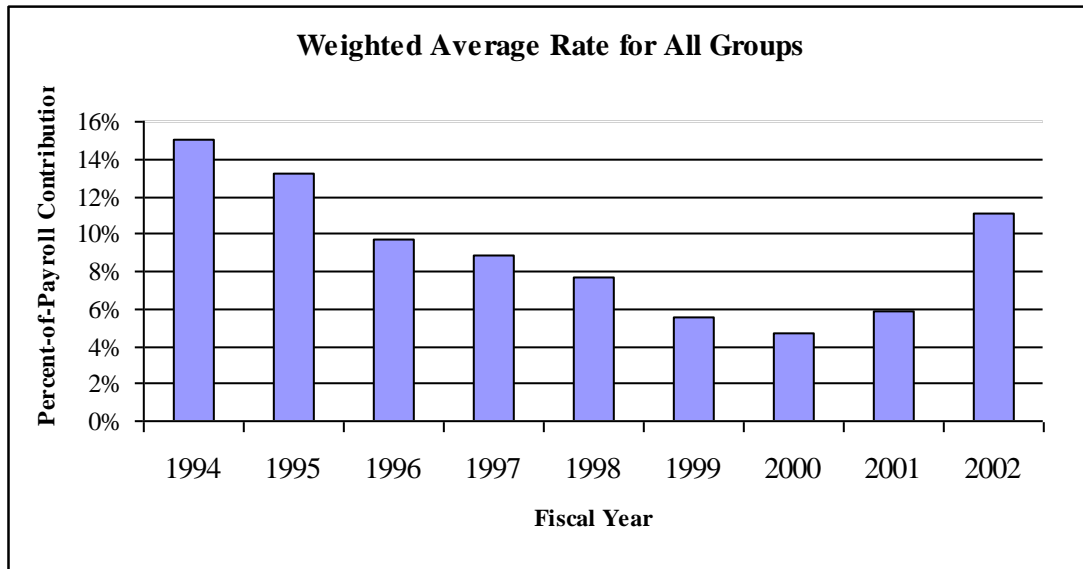
**Elements of Normal Cost**

Normal Retirement	14.64%
Vested Deferred Retirement	1.28
Death-In-Service <sup>1</sup>	0.52
Disability <sup>1</sup>	0.44
Contribution Refunds	<u>0.19</u>
<b>Total Normal Cost</b>	<b>17.07%</b>
Less	
Employee Contributions <sup>2</sup>	<u>6.49</u>
Equals	
<b>Employer Normal Cost</b>	<b>10.58%</b>

- 1 These figures could be viewed as overstated, and Normal Retirement figures understated, since, in many cases, an active member, who dies or becomes disabled will have significant service credit accrued and may be eligible for service retirement at time of disability or death benefit grant.
- 2 Shown employee contributions will be reduced by applicable employee pick ups. Pick ups (aka, “defrayals”) averaged 6.58% for pre-1983 hires, as a percentage of present value of future payroll. We recommend that the City take a 1% discount on pick ups to reflect anticipated savings from refunds.

Los Angeles City Employees' Retirement System  
**Computed Contributions – Historic Comparison**

Valuation Date	Retirement	Health	Total	Valuation Payroll (thousands)
6/30/94	12.07%	2.99%	15.06%	\$884,951
6/30/95	7.34%	2.30%	9.64%	\$911,292
6/30/96	6.51%	3.18%	9.69%	\$957,423
6/30/97	6.57%	1.85%	8.42%	\$990,616
6/30/98	6.43%	1.27%	7.70%	\$1,011,857
6/30/99	4.93%	0.67%	5.60%	\$1,068,124
6/30/00	2.54%	2.17%	4.71%	\$1,182,203
6/30/01	3.84%	1.98%	5.82%	\$1,293,350
6/30/02	9.22%	1.85%	11.07 %	\$1,334,335



Los Angeles City Employees' Retirement System  
**Member Contributions as of June 30, 2002**

In addition to City contributions, LACERS is also funded by member contributions. The rate is 6% for those hired after January 1, 1983. For other members, the contribution is expressed as a percent of pay and varies according to age of entry into the system. For pre-1983 members, a portion of the contributions are picked up by the City. Picked up contributions are nonrefundable to members.

Please refer to the Appendix for a detailed list of these rates. The City currently takes a 3% discount on pick ups to reflect anticipated savings from refunds. We recommend a 1% discount since there is significantly less employee turnover from the City than previously assumed, as shown in the 1998 – 2002 experience study.

	(Percents of Pay)	
	<u>All Active Members</u>	
	<u>2001</u>	<u>2002</u>
Overall employee contribution rate	6.60%	6.49%
	<u>Pre-January 1, 1983 Active Members</u>	
Weighted gross rate	9.26%	9.25%
Weighted rate after pick up	2.67%	2.67%

Los Angeles City Employees' Retirement System

**Unfunded Actuarial Accrued Liability**

June 30, 2002

**Derivation of Experience Gain (Loss)**

The actuarial gains or losses realized in the operation of LACERS provide an experience test. Gains and losses are expected to cancel each other over a period of years and sizable year-to-year fluctuations are common.

	<b><u>Retirement</u></b>	<b><u>Health</u></b>
(1) Unfunded Actuarial Accrued Liability (UAAL) at beginning of year	(\$520,716,053)	(\$37,079,192)
(2) Normal Cost for the year	99,457,898	28,247,620
(3) City Contributions net of defrayals	32,296,002	27,589,038
(4) Interest Accrual	(39,022,491)	(2,940,499)
(5) Expected UAAL at end of year (1) + (2) – (3) + (4)	(492,576,648)	(39,361,109)
(6) Increase in UAAL due to benefit enhancements	37,648,786	0
(7) Increase in UAAL due to assumption changes	462,651,397	60,025,541
(8) Expected UAAL at the end of year after changes	7,723,535	20,664,432
(9) Actual End of Year UAAL	191,930,161	78,047,910
(10) Lag adjustment for actual versus expected contributions	6,357,968	(6,902,093)
(11) Total (Gain)/Loss (9) – (8) + (10)	\$190,564,594	\$50,481,385
(12) (Gain)/Loss as percentage of actuarial accrued liabilities at beginning of year	2.9%	6.2%
Note:		
Asset Loss	\$262,035,481	\$43,607,266
- as percentage of AL at beginning of year	4.1%	0.7%
Liability (Gain)/Loss	(\$71,470,887)	\$6,874,119
- as percentage of AL at beginning of year	(1.1%)	0.1%

Los Angeles City Employees' Retirement System  
**(Gain)/Loss on Unfunded Accrued Liability for Retirement Benefits**

**Components of Actuarial Gain (Loss)**

Estimated (Gain) attributed to pay increases	(\$87,656,000)
Estimated (Gain) attributed to post-retirement mortality	(\$13,287,000)
Estimated Loss attributed to rehires and data refinements	\$7,076,000
Estimated Loss attributed to employee turnover, pre-retirement mortality, retirement incidence, and miscellaneous factors	\$22,397,000
Estimated Loss attributed to investment experience	<u>\$262,035,000</u>
Total Estimated Experience Loss	\$190,565,000

**Unfunded Actuarial Accrued Liability**

Total actuarial accrued liabilities	\$7,252,117,949
Assets allocated to retirement plan	<u>\$7,060,187,788</u>
Unfunded Actuarial Accrued Liability	\$191,930,161



Los Angeles City Employees' Retirement System

**Detail of Amortization of Unfunded Actuarial Accrued Liability**

**Retirement Benefits**

<u>Item</u>	<u>Years Left</u>	<u>Remaining Balance 6/30/02</u>	<u>Amortization Amount</u>
Combined Bases at 6/30/97	10	\$64,083,697	\$7,844,415
Gain at 6/30/98	11	(329,446,750)	(37,313,062)
Change in Assumptions at 6/30/98	26	242,301,216	14,914,452
Gain at 6/30/99	12	(177,013,415)	(18,702,409)
Plan Change at 6/30/99	27	23,068,881	1,389,118
Change in Assumptions at 6/30/99	27	(10,084,319)	(607,239)
Gain at 6/30/00	13	(323,826,517)	(32,136,228)
Loss at 6/30/01	14	11,982,591	1,123,442
Loss at 6/30/02	15	190,564,594	16,964,090
Plan Changes at 6/30/02	30	37,648,786	2,137,801
Change in Assumptions at 6/30/02	30	462,651,397	26,270,617
<b>Total</b>		<b>\$ 191,930,161</b>	<b>(\$18,115,003)</b>

**Health Subsidy**

<u>Item</u>	<u>Years Left</u>	<u>Remaining Balance 6/30/02</u>	<u>Amortization Amount</u>
Combined Bases at 6/30/97	10	\$48,062,456	\$5,883,272
Gain at 6/30/98	11	(101,298,211)	(11,473,012)
Change in Assumptions at 6/98	26	48,382,096	2,978,080
Gain at 6/30/99	12	(98,709,614)	(10,429,196)
Plan Change at 6/30/99	27	3,359,493	202,296
Change in Assumptions at 6/30/00	28	48,000,649	2,831,183
Loss at 6/30/00	13	102,841,381	10,205,879
Gain at 6/30/01	14	(83,097,266)	(7,790,886)
Loss at 6/30/02	15	50,481,385	4,493,861
Change in Assumptions at 6/30/02	30	60,025,541	3,408,415
<b>Total</b>		<b>\$78,047,910</b>	<b>\$309,892</b>

Los Angeles City Employees' Retirement System

**Funding Progress Indicators**

June 30, 2002

There is no single all-encompassing indicator which measures a retirement system's funding progress and current funded status. A traditional measure has been the relationship of valuation assets to unfunded actuarial accrued liability – a measure that is influenced by the choice of actuarial cost method.

We believe a better understanding of funding progress and status can be achieved using the following indicators which are independent of the actuarial cost method.

1. The ratio of valuation assets to the actuarial present value of credited projected benefits allocated in the proportion accrued service is to projected total service – a plan continuation indicator.
2. The ratio of the unfunded actuarial present value of credited projected benefits to member payroll – a plan continuation indicator. In a soundly financed retirement system, the amount of the unfunded actuarial present value of credited projected benefits will be controlled and prevented from increasing in the absence of benefit improvements or strengthening of actuarial assumptions. However, in an inflationary environment it is seldom practical to impose this control on dollar amounts which are depreciating in value. The ratio is a relative index of condition where inflation is present in both items. The ratio is expected to decrease in the absence of benefit improvements or strengthening of actuarial assumptions.

Los Angeles City Employees' Retirement System  
**Funding Progress Indicators – Historic Comparison**

(\$ in Thousands)

**Retirement**

<u>Valuation Date</u>	<u>Valuation Assets</u>	<u>Actuarial Accrued Liability</u>	<u>Unfunded AAL</u>	<u>Funded Ratio</u>	<u>Member Payroll</u>	<u>UAAL Ratio to Payroll</u>
6/30/99	\$5,910,948	\$5,684,586	(\$226,362)	104.0%	\$1,068,124	(21.2)%
6/30/00	6,561,365	6,012,931	(548,434)	109.1	1,182,203	(46.4)
6/30/01	6,988,782	6,468,066	(520,716)	108.1	1,293,350	(40.3)
6/30/02 <sup>2</sup>	7,060,188	7,252,118	191,930	97.4	1,334,335	14.4

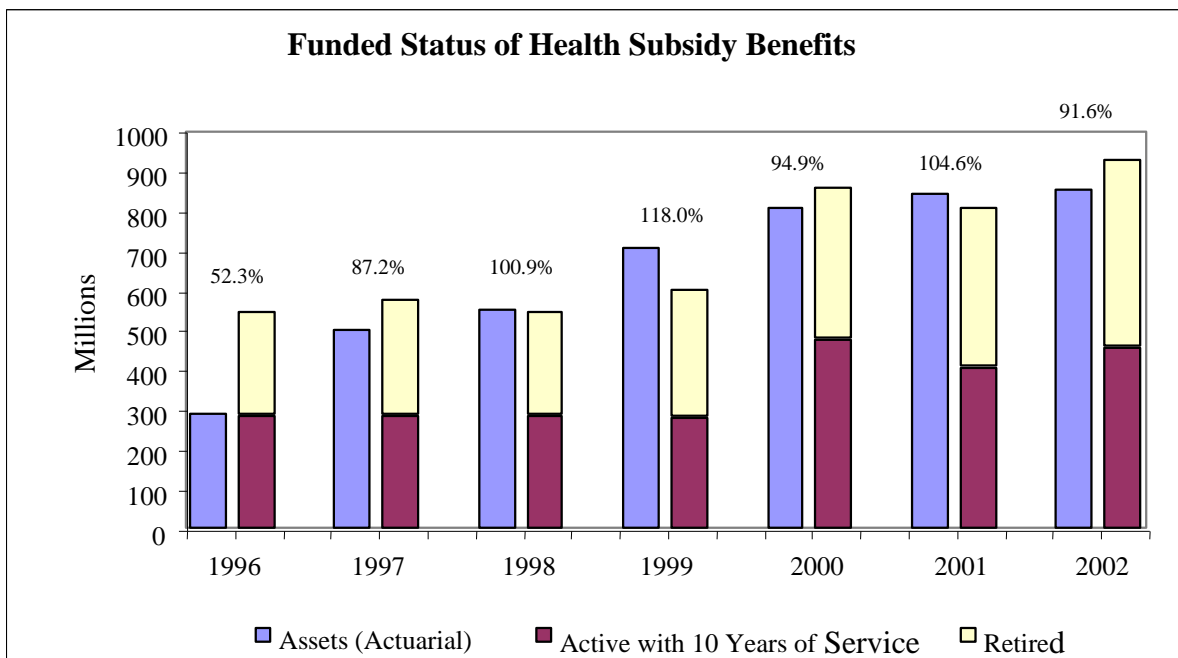
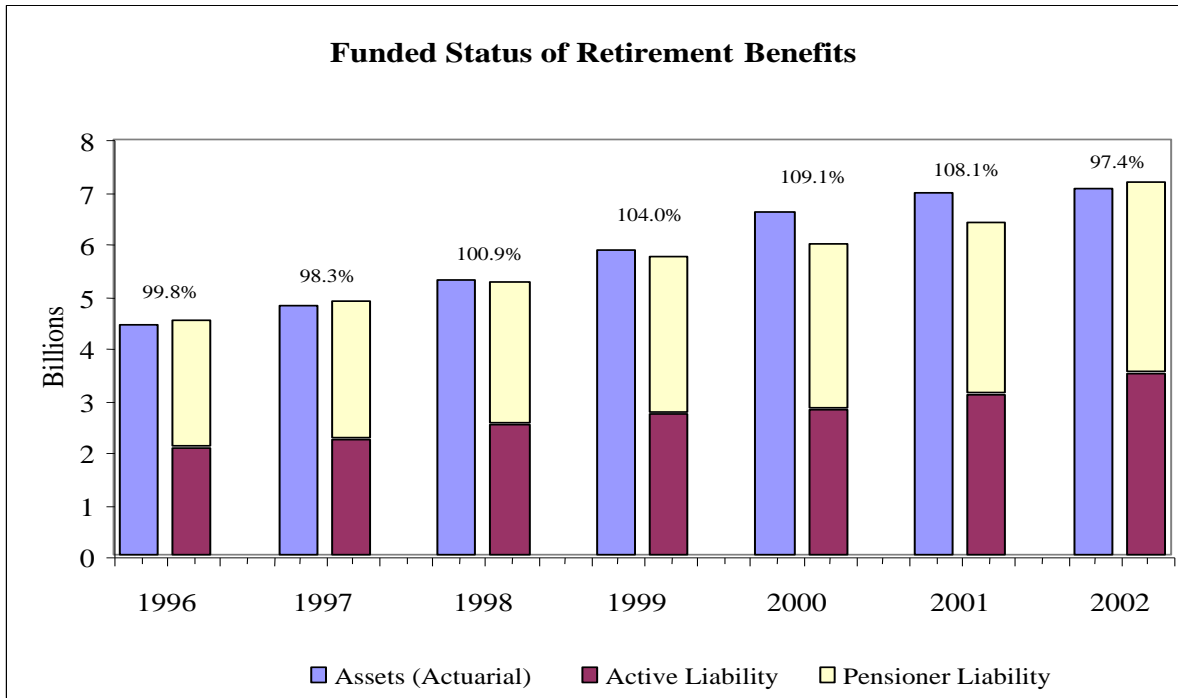
**Health Subsidy**

<u>Valuation Date</u>	<u>Valuation Assets</u>	<u>Actuarial Accrued Liability</u>	<u>Unfunded AAL</u>	<u>Funded Ratio</u>	<u>Member Payroll</u>	<u>UAAL Ratio to Payroll</u>
6/30/99	\$724,429	\$614,093	(\$110,336)	118.0%	\$1,068,124	(10.3)%
6/30/00 <sup>1</sup>	810,303	854,066	43,763	94.9	1,182,203	3.7
6/30/01	844,984	807,905	(37,079)	104.6	1,293,350	(2.9)
6/30/02 <sup>2</sup>	853,916	931,964	78,048	91.6	1,334,335	5.8

<sup>1</sup> Reflects significant increase in maximum benefits

<sup>2</sup> Reflects assumption changes

## Los Angeles City Employees' Retirement System



Los Angeles City Employees' Retirement System

**Actuarial Balance Sheet – June 30, 2002**

(\$ in Thousands)

**Present Resources and Expected Future Resources**

	<u>Retirement</u>	<u>Health</u>	<u>Total</u>
A. Actuarial value of system assets	\$7,060,188	\$853,916	\$7,914,104 <sup>2</sup>
B. Present value of expected future contributions			
1. For normal costs for present actives <sup>1</sup>	\$1,330,233	\$230,088	\$1,560,321
2. For unfunded actuarial accrued liability	<u>\$191,930</u>	<u>\$78,048</u>	<u>\$269,978</u>
3. Totals	\$1,522,163	\$308,136	\$1,830,299
C. Present value of expected future member contributions <sup>1</sup>	<u>\$815,993</u>	<u>\$0</u>	<u>\$815,993</u>
D. Total Present and Expected Future Resources	\$9,398,344	\$1,162,052	\$10,560,396

**Present Value of Expected Future Benefit Payments and Reserve**

A. To retirants and beneficiaries	\$3,735,123	\$465,300	\$4,200,423
B. To vested terminated members	\$75,216	\$12,088	\$87,304
C. To present active members			
1. Allocated to service rendered prior to valuation date	\$3,441,779	\$454,576	\$3,896,355
2. Allocated to service likely to be rendered after valuation date	<u>\$2,146,226</u>	<u>\$230,088</u>	<u>\$2,376,314</u>
3. Totals	\$5,588,005	\$684,664	\$6,272,669
D. Total Present Value of Expected Future Benefit Payments	\$9,398,344	\$1,162,052	\$10,560,396

<sup>1</sup> Prior to any employer pick-up contributions.

<sup>2</sup> This excludes Family Death Benefit Insurance Reserve.

**Family Death Benefit Insurance**

Section 511.1 of the City Charter establishes the Family Death Benefit Insurance Plan. This Plan provides protection for the families of Members who die before becoming eligible for service retirement. The benefits provided by the Plan are similar to those provided to survivors under Social Security. Members are eligible for dependent benefits after 18 months of participation in the Family Death Benefit Plan. They are eligible for surviving spouse benefits after ten years of participation in the Plan.

Currently, the City and Members share the cost of the Plan. Each contributes \$3.46 per month. This contribution rate is reviewed every two years to determine if the level of contributions is appropriate. This rate will be next reviewed as part of the June 30, 2003 valuation.

# Los Angeles City Employees' Retirement System

## Comments & Recommendations

June 30, 2002

**COMMENT A:** The overall City contribution rate increased significantly from 5.82% to 11.07%.

The retirement contribution increased from 3.84% to 9.22%. This was attributable to a wide variety of factors in order of impact:

- 1) Assumption changes, most notably a significant lowering of assumed employee turnover rates, updating assumed mortality experience from a 1971 table to a 1994 table and slightly higher pay increases for age 55+ actives
- 2) An actuarial loss of \$241 million, primarily attributable to lower investment earnings than assumed and lower employee turnover than assumed
- 3) Ad hoc benefit increases for those retired prior to July 1, 1978 and a one-year extension of the 50/30 early retirement subsidy through September 30, 2003

The portion of the contribution related to the Health Subsidy decreased from 1.98% to 1.85%. The reasons for the slight decrease were:

- 1) The change in the valued dollar maximum from \$702 to \$751 per month was slightly less than the assumed trend
- 2) Assumed medical inflation trend rates are slightly lower than last year, as previously projected
- 3) The number of active members with 10+ years of service declined by 300. Unlike the retirement benefit valuation, the health subsidy valuation is restricted to those actives currently meeting the ten-year requirement to receive the subsidy.

**COMMENT B:** The investment loss on the actuarial value of assets was \$305 million, \$262 million which is attributable to retirement benefits. Using market value, the loss was \$955 million. For this purpose, it is helpful to remember that "loss" is compared to your 8% return assumption, not zero. As occurred last year, five-year smoothing of the actuarial value of assets strongly masked the losses on a market value basis.

With the bear market continuing, no longer is a substantial portion of benefits earned in the current year by members ("normal cost") being paid by excellent investment earnings in previous years. We predicted this likelihood in last year's valuation.

With over \$1.2 billion in deferred losses not yet recognized in the actuarial value of assets, an increase in next year's computed rate is close to a certainty. One indication of the magnitude of the market downturn is that this is far above the \$528 million in deferred losses as of June 30, 2001.

**COMMENT C:** The funded ratio for retirement benefits decreased from 108.1% to 97.4%. The funded ratio for the health subsidy has decreased from 104.6% to 91.6%. The overall funded ratio is 96.7%. This is markedly higher than the overall 81.8% funded ratio if the ratio instead used market value of assets.

# Los Angeles City Employees' Retirement System

## Comments & Recommendations

June 30, 2002

(Continued)

**COMMENT D:** The sum of active member contribution balances from the data tape as of June 30, 2002 is \$896.6 million. The sum for all vested deferred members is \$34.8 million. These two sums are slightly less than the Member Deposit Reserve balance of \$950 million. The \$18.6 million difference may be largely due to unlocated members.

**COMMENT E:** The significant experience loss occurred in spite of an actuarial gain of \$87.7 million due to lower compensation increases than anticipated. A significant number of actives had no change in their valuation compensation from 2001.

**COMMENT F:** There is an apparent paradox in the amortization of unfunded liabilities for retirement benefits. There is an unfunded liability of \$191.9 million but a net amortization credit of 1.36%. The reason is that the liability increases associated with both benefit increases and assumption changes are amortized over thirty years whereas experience gains and losses use only a fifteen-year horizon.

ANY uniform amortization period would have resulted in a positive amortization cost component.

**COMMENT G:** We recommend that the discount for pick ups (aka, "defrayals") be reduced from 3% to 1% due to the aging of this closed group of actives with entry age-based employee contribution rates and the markedly reduced rates of assumed employee turnover.

**COMMENT H:** At the Winter retreat, we would like to discuss two ways to make the health subsidy valuation more consistent with the retirement valuation. Last year, GRS inherited methodology where only those active members with 10+ years of service are valued. For retirement benefits, all actives are valued.

Also, we believe that the long-term medical inflation assumptions should be made more consistent with the 4% inflation assumption for retirement benefits. We realize this seems counter intuitive given the double-digit medical price increases of the past couple years but we do not believe that America will keep spending a greater percentage of output on medical care indefinitely.

**COMMENT I:** The Retirement System continues to be in sound financial condition in accordance with the actuarial principles of level-cost financing.





**SUMMARY OF BENEFIT PROVISIONS**

**&**

**VALUATION DATA SUBMITTED BY RETIREMENT SYSTEM**

Los Angeles City Employees' Retirement System  
**Brief Summary of Benefit Provisions Evaluated**

Effective June 30, 2002

1. Membership Requirements – First day of employment.

2. Final Compensation for Benefit Determination

Highest consecutive twelve months of compensation earnable

3. Service Requirement

A. Eligibility: Age 55 with 10 years of service, or age 70 regardless of service, or after 30 years, regardless of age

B. Benefit Formula Per Year of Service

Unreduced: 2.16% of Final Compensation

Reduced: For retirement ages below age 60 (age 55 for those with 30+ Years of Service). (Age 50 with 30 Years of Service until 10/1/2003. This date was extended from 10/1/2002 in the 2001 valuation)

<u>Age</u>	<u>Reduction</u>	<u>Age</u>	<u>Reduction</u>
50	22.5%	55	7.5%
51	19.5	56	6.0
52	16.5	57	4.5
53	13.5	58	3.0
54	10.5	59	1.5

C. Maximum Benefit – 100% of Final Average Compensation

(Continued on Next Page)

Los Angeles City Employees' Retirement System  
**Brief Summary of Benefit Provisions Evaluated**  
Effective June 30, 2002

(Continued)

4. Ordinary Disability

A. Eligibility – Five years of continuous service.

B. Benefit Formula –  $1/70^{\text{th}}$  of Final Compensation for each year of service. This is compared to a minimum benefit, based on projected years of service to age 65. Such minimum is subject to a maximum projection of 23  $1/3$  years.

5. Death

A. Eligibility – None.

B. Benefit – Refund of employee contributions with interest plus two months' of final compensation for each year of service to a maximum of six years

or

A1. Eligibility – Duty-related death or if qualified for Disability Retirement

Benefit – Accrued Joint & 100% disability survivor benefit to Qualified Surviving Spouse or Domestic Partner.

In either case, applicable Family Death Insurance Benefits will also be paid.

or

A2. Eligibility – Qualified for Service Retirement.

B2. Benefit – Accrued Joint and 100% survivor benefit to Qualified Surviving Spouse or Domestic Partner.

(Continued on Next Page)

Los Angeles City Employees' Retirement System  
**Brief Summary of Benefit Provisions Evaluated**  
Effective June 30, 2002

(Continued)

6. Death After Retirement

A. Service or Disability Retirement

- 50% of member's unmodified allowance continued to eligible spouse or domestic partner or modified continuance selected by the member at the time of retirement.
- \$2,500 lump sum benefit payable to member's beneficiary
- If applicable, return of any unused employee contributions and interest

7. Withdrawal Benefits

A. Less than Five Years of Service

Refund of accumulated employee contributions with interest.

B. Five or More Years of Service

If contributions left on deposit, entitled to earned benefits commencing at any time after eligible to retire.

The benefit payable is the same as Service Retirement, except that there must be at least ten years elapsed from original membership (unless the member has attained age 70).

8. Post-retirement Cost-of-Living Benefits

Each July 1, benefits are increased by a maximum of 3% based on increases in the local CPI.

9. City Contributions

Determined by Projected Unit Credit cost method with funding of each year's actuarial gain (loss) spread as a level percent of payroll over 15 years. Liability changes due to benefit and assumption changes are amortized over 30 years.

(Concluded on Next Page)

Los Angeles City Employees' Retirement System  
**Brief Summary of Benefit Provisions Evaluated**  
Effective June 30, 2002

(Concluded)

10. Member Contributions

6% of pay for post-January 1, 1983 hires. Please refer to Appendix A for entry-age based rates for earlier hires.

NOTE: The summary of major plan provisions is designed to outline principal plan benefits. If the City should find the plan summary not in accordance with the actual provisions, the City should alert the actuary immediately so proper provisions are valued.

## Valuation of Health Subsidy Benefits

### Introduction

Division 4, Chapter 11 of the Administrative Code provides that a health insurance subsidy be paid to retired Members of the Los Angeles City Employees' Retirement System. This subsidy is a monthly payment which retirees apply to the cost of health insurance. Retirees can select among a variety of plans sponsored by LACERS. In general, members are eligible for subsidy at retirement after age 55 with 10 years of service, or retirement at age 70 (if it was compulsory). Exhibit V summarizes the provisions of the Health Insurance Premium Subsidy.

The System is building a reserve through the advance funding of the health insurance subsidy for current retirees and for active members with sufficient service to receive a health subsidy (ten years). The actuarial value of the reserve available at June 30, 2002 is \$853,915,799 (the market value is \$722,534,582).

This section of the report contains the results of the June 30, 2002 valuation of the retiree health insurance premium subsidy. In determining the budget amounts for the fiscal year 2003-2004, we have used the same funding method and methods of amortization used in the funding of the retirement benefits. We have also used the same economic and demographic assumptions as those used in the retirement valuation. In addition, special health cost trend assumptions were used. A summary of the economic assumptions follows:

- 8.0% annual interest
- graded medical cost trend of 8.00% in 2002-2003 decreasing gradually to 6.0% in 2010 and beyond for benefits paid before age 65, and benefits paid to members without Medicare
- medical cost trend rates of 13.00% in 2002-2003 decreasing gradually to 6.00% in 2014 and beyond for benefits paid after age 65 from System HMO plans
- graded medical cost trend rates of 9.0%, decreasing gradually to 6.00% in 2014 and beyond for benefits paid after age 65 for Members who join the PPO.
- graded dental trend rates of 7.50% in 2002-2003 decreasing to 6.0% in 2008 and beyond
- Medicare Part B premium trend rates of 6.0%

These assumptions are the same as used last year in the valuation of health subsidy liabilities of the Los Angeles City Employees' Retirement System at June 30, 2002.

Los Angeles City Employees' Retirement System

**Summary of Health Subsidy Benefits**

**Eligibility:** Members who retire with ten years of service. Subsidy begins at age 55. Medical benefits are available to an eligible spouse or domestic partner after the death of the eligible Member.

**Subsidy:** Medical  
For retired Members under age 65 or 65 and over with only Medicare Part B: A percentage of the Maximum Subsidy, or the actual premium paid to a City approved health carrier, if less.

The percentage is 4% for each year of service, up to a maximum of 100% after 25 years.

Maximum Subsidy: As of July 1, 2002, this amount is \$751 per month. This is an increase from the previous maximum of \$702.

For retired Members age 65 and over with Medicare Parts A and B: A percentage of the premium paid to a City approved health carrier. The percentage is 75% with 10 – 14 years of service, 90% for 15 – 19 years of service and 100% for 20 years of service or more. Medicare Part B premiums are also paid.

For eligible surviving spouse or domestic partners:  
The same subsidy provided to the Member, except this benefit is limited to the Kaiser single party premium for Members without Medicare A and B.

Dental  
4% per year of service to a maximum of the premium for Blue Cross PPO or Safeguard (HMO).

Los Angeles City Employees' Retirement System

**Summary of Reported Asset Information**

Submitted for the June 30, 2002 Valuation

(in thousands)

Reported Market Value of Assets		Reserves	
Cash/Short-term	\$667,167	Member Deposit Reserve	\$950,002
Receivables	171,748	Basic Pension Reserve	4,579,727
Stocks	3,650,361	Family Death Benefit Reserve	17,480
Bonds	1,437,677	Annuity Reserve	444,197
Real Estate	369,554	Health Benefits Reserve	722,534
Mortgages	427,093		
Miscellaneous	385,213	Total Reserves	\$6,713,940
Total Market Value	\$7,108,813		
Liabilities	\$394,873		
Net Market Value	\$6,713,940		

Revenues and Disbursements Among Applicable Reserves

<b>Balance – Beginning of year</b>	<b>\$7,325,309</b>
Revenues	
Employees' contributions	75,470
Employer contributions	60,080
Defrayal	19,388
Family Death Benefit Premium	184
Distributed & undistributed investment income	(347,433)
<b>Total Revenues</b>	<b>(192,311)</b>
Disbursements	
Benefit payments and refunds	345,795
Health & Dental Insurance	38,870
Medicare Reimbursement	3,199
Administrative & Investment Expense	31,194
<b>Total Disbursements</b>	<b>419,058</b>
<b>Net (Decrease)</b>	<b>(611,369)</b>
<b>Balance – End of year</b>	<b>6,713,940</b>



Los Angeles City Employees' Retirement System

**Derivation of Actuarial Value of Assets**

	Year Ending			
	<u>June 30, 2002</u>	<u>June 30, 2001</u>	<u>June 30, 2000</u>	<u>June 30, 1999</u>
1. Beginning of Year Market Value	\$7,325,308,818	\$7,881,497,296	\$7,279,063,114	\$6,600,702,384
2. Contributions	155,122,031	157,356,785	171,189,588	171,927,161
3. Benefit Payments	387,864,290	355,862,157	331,798,058	300,252,155
4. Expected Return Based on 8%	576,715,015	622,579,569	575,900,710	522,923,191
5. Expected End of Year Market Value	7,669,281,574	8,305,571,493	7,694,355,354	6,995,300,581
6. Actual End of Year Market Value	6,713,940,288	7,325,308,818	7,881,497,296	7,279,063,114
7. Gain/(Loss)	(955,341,286)	(980,262,675)	187,141,942	283,762,533
1. Market Value at June 30, 2002				\$6,713,940,288
2002 (Gain)/Loss x 80%				764,273,029
2001 (Gain)/Loss x 60%				588,157,605
2000 (Gain)/Loss x 40%				(74,856,777)
1999 (Gain)/Loss x 20%				(56,752,507)
2. Actuarial Value at June 30, 2002				7,934,761,638
3. 80% of Market Value at June 30, 2002				5,371,152,230
4. 120% of Market Value at June 30, 2002				8,056,728,346
5. Actuarial Value at June 30, 2002 (2), but no less than (3) and no more than (4)				7,934,761,638

## Los Angeles City Employees' Retirement System

### Actuarial Value of Assets

In deriving the actuarial value of assets for retirement benefit for the 2002 valuation, we use the asset-smoothing technique as illustrated on the previous page. The actuarial value of assets for the Family Death Benefit Insurance and Health Subsidy are calculated by adjusting their reserves by the ratio of the total system's actuarial value to market value of assets. To derive the Actuarial Value of Assets for Retirement Benefit, these values are then subtracted from the total Actuarial Value.

	<u>Market Value</u>	<u>Actuarial Value</u>
1. Total Value of Assets at June 30, 2002	\$6,713,940,288	\$7,934,761,638
2. Less Reserves and Liabilities Established for:		
a. Family Death Benefit Insurance	17,479,658	20,658,051
b. Retiree Health Subsidy	<u>722,534,582</u>	<u>853,915,799</u>
c. Total	740,014,240	874,573,850
3. Net Assets Available for Retirement Benefits at June 30, 2002 (Item 1 less Item 2)	\$5,973,926,048	\$7,060,187,788

Here is a summary of assets as of the past valuation dates in thousands:

	<u>2002</u>	<u>2001</u>	<u>2000</u>
1. Market Value	\$6,713,940	\$7,325,309	\$7,881,497
2. Gross Actuarial Value	7,934,762	7,853,297	7,389,277
3. Family Death Benefit Insurance	20,658	19,531	17,609
4. Retiree Health Subsidy	853,916	844,984	810,303
5. Net Actuarial Value for Retirement: (2) – (3) – (4)	\$7,060,188	\$6,988,782	\$6,561,365

Los Angeles City Employees' Retirement System

**Membership Summary**

In the June 30, 2002 Actuarial Valuation

**ACTIVES**

	<u>No.</u>	<u>Annual Compensation</u>	<u>Averages</u>		
			<u>Annual Compensation</u>	<u>Age</u>	<u>Service</u>
6/30/01	25,654	\$1,293,350,061	\$50,415	44.3	11.8
6/30/02	25,930	1,334,335,478	51,459	44.4	11.8
Percent Increase	1.1%	3.2%	2.1%		

**DEFERRED VESTED**

	<u>No.</u>	<u>Member Contributions</u>	<u>Annual Accrued Benefits</u>	<u>Averages</u>			
				<u>Contribution Balance</u>	<u>Annual Accrued Benefits</u>	<u>Age</u>	<u>Service</u>
6/30/01	748	\$27,416,346	\$9,573,019	\$36,653	\$12,798	46.6	12.1
6/30/02	957 <sup>1</sup>	34,807,353	12,199,821	36,371	12,748	46.5	11.7
Percent Increase	27.9%	27.0%	27.4%	(0.8%)	(0.4%)		

**RETIRANTS AND BENEFICIARIES**

	<u>No.</u>	<u>Annual Allowance<sup>2</sup></u>	<u>Averages</u>			<u>New Retirees</u>		
			<u>Annual Allowance</u>	<u>Attained Age</u>	<u>Age at Retirement</u>	<u>No.</u>	<u>Age</u>	<u>Average Allowance</u>
6/30/01	13,365	\$316,057,216	\$23,648	71.5	59.0	575	59.1	\$34,231
6/30/02	13,589	336,437,038	24,758	71.5	58.9	619	58.9	32,540
Percent Increase	1.7%	6.4%	4.7%					

<sup>1</sup> The significant increase in deferred vesteds is a reflection of staff's data review that occurred during the experience study, not actual experience.

<sup>2</sup> Prior to 7-1 COLA.

Los Angeles City Employees' Retirement System

**Historical Membership Summary**

In the June 30, 2002 Actuarial Valuation

**Actives**

	<u>No.</u>	<u>Annual Compensation</u>	<u>Averages</u>			
			<u>Compensation</u>	<u>Percentage Increase</u>	<u>Age</u>	<u>Years of Service</u>
6/30/96	22,319	\$957,422,907	\$42,897	-- %	43.9	12.5
6/30/97	22,219	990,616,145	44,584	3.9%	44.2	12.9
6/30/98	22,091	1,011,857,180	45,804	2.7%	44.5	13.2
6/30/99	22,504	1,068,124,413	47,464	3.6%	44.6	13.1
6/30/00	24,234	1,182,202,945	48,783	2.8%	44.4	12.3
6/30/01	25,654	1,293,350,061	50,415	3.3%	44.3	11.8
6/30/02	25,930	1,334,335,478	51,459	2.1%	44.4	11.8

**Retirants and Beneficiaries**

	<u>No.</u>	<u>Annual Total Pensions</u>	<u>Averages</u>		
			<u>Pension</u>	<u>Percentage Increase</u>	<u>Attained Age</u>
6/30/96	12,242	\$219,872,033	\$17,960	-- %	71.6
6/30/97	12,698	240,692,161	18,955	5.5%	71.5
6/30/98	12,591	259,378,957	20,600	8.7 %	71.5
6/30/99	12,843	277,022,689	21,570	4.7%	71.5
6/30/00	13,058	290,899,998	22,278	3.3%	71.6
6/30/01	13,365	316,057,216	23,648	6.2%	71.5
6/30/02	13,589	336,437,038	24,758	4.7%	71.5

Los Angeles City Employees' Retirement System

**Retirants and Beneficiaries June 30, 2002**

Tabulated by Type of Allowances Being Paid

<u>Type of Allowance</u>	<u>No.</u>	<u>Annual Allowance<sup>1</sup></u>	<u>Average Annual Allowance</u>
<b>Service Retirement</b>			
Unmodified			
50% Continuance	4,256	\$119,069,049	\$27,977
No Continuance	2,667	68,728,893	25,770
Optional Forms			
100% Continuance	1,292	42,380,507	32,802
75% Continuance	658	25,922,716	39,396
60% Continuance	607	22,983,255	37,864
Not Coded/Data issue	128	1,663,233	12,994
Other	20	1,025,122	51,256
Beneficiary	<u>2,506</u>	<u>38,693,865</u>	<u>15,440</u>
Total Service Retirement	12,134	\$320,466,640	\$26,411
<b>Disability Retirement</b>			
Unmodified			
50% Continuance	292	\$3,565,557	\$12,211
No Continuance	302	3,869,666	12,813
Optional Forms			
100% Continuance	39	546,304	14,008
75% Continuance	11	157,871	14,352
60% Continuance	7	130,485	18,641
Not Coded/Data issue	175	2,219,888	12,685
Beneficiary	<u>560</u>	<u>4,753,350</u>	<u>8,488</u>
Total Disability Retirement	1,386	\$15,243,121	\$10,998
<b>Other Beneficiaries</b>	<u>69</u>	<u>\$727,277</u>	<u>\$10,540</u>
Total Allowances Being Paid	<u>13,589</u>	<u>\$336,437,038</u>	<u>\$24,758</u>

<sup>1</sup> Benefits do not include COLA increase on July 1, 2002.

Los Angeles City Employees' Retirement System  
Active Members  
By Attained Ages and Years of Service

Age Group	Years of Service to Valuation date												Total	
	0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34	35 & Up		
15-19 NO.	10	0	0	0	0	0	0	0	0	0	0	0	0	10
TOT PAY	192,702	0	0	0	0	0	0	0	0	0	0	0	0	192,702
AVG PAY	19,270	0	0	0	0	0	0	0	0	0	0	0	0	19,270
20-24 NO.	336	186	67	21	8	3	0	0	0	0	0	0	0	621
TOT PAY	9,127,331	6,286,123	2,376,159	828,872	316,555	139,922	0	0	0	0	0	0	0	19,074,963
AVG PAY	27,165	33,796	35,465	39,470	39,569	46,641	0	0	0	0	0	0	0	30,717
25-29 NO.	508	461	322	184	81	107	0	0	0	0	0	0	0	1,663
TOT PAY	17,759,747	17,034,377	13,617,955	8,179,012	3,470,585	4,941,229	0	0	0	0	0	0	0	65,002,906
AVG PAY	34,960	36,951	42,292	44,451	42,847	46,180	0	0	0	0	0	0	0	39,088
30-34 NO.	448	390	422	286	178	540	349	10	0	0	0	0	0	2,623
TOT PAY	17,732,989	14,941,243	18,645,424	13,402,127	8,334,654	27,713,427	17,905,480	581,422	0	0	0	0	0	119,256,767
AVG PAY	39,583	38,311	44,183	46,861	46,824	51,321	51,305	58,142	0	0	0	0	0	45,466
35-39 NO.	325	369	349	248	148	633	1,264	430	10	0	0	0	0	3,776
TOT PAY	13,017,341	14,867,784	15,821,694	11,325,065	6,951,861	33,472,625	71,814,861	22,503,672	531,087	0	0	0	0	190,305,991
AVG PAY	40,053	40,292	45,334	45,666	46,972	52,879	56,816	52,334	53,109	0	0	0	0	50,399
40-44 NO.	277	298	284	207	126	463	1,186	1,121	402	7	0	0	0	4,371
TOT PAY	10,659,794	11,856,035	13,478,854	9,385,052	5,883,974	24,088,994	67,272,836	67,583,894	21,329,656	377,562	0	0	0	231,916,651
AVG PAY	38,483	39,785	47,461	45,338	46,698	52,028	56,722	60,289	53,059	53,937	0	0	0	53,058
45-49 NO.	266	222	227	156	85	387	951	939	664	326	15	0	0	4,238
TOT PAY	10,441,516	9,289,462	10,290,360	7,771,543	4,313,436	20,630,554	54,231,050	56,473,712	38,540,195	18,036,927	821,226	0	0	230,839,982
AVG PAY	39,254	41,844	45,332	49,818	50,746	53,309	57,025	60,142	58,042	55,328	54,748	0	0	54,469
50-54 NO.	165	207	159	120	82	275	659	681	577	618	386	5	0	3,934
TOT PAY	6,270,846	8,648,221	6,780,315	6,025,094	3,870,528	13,645,467	36,861,647	39,416,556	34,928,354	39,433,147	23,423,576	354,765	0	219,658,515
AVG PAY	38,005	41,779	42,643	50,209	47,202	49,620	55,936	57,880	60,534	63,808	60,683	70,953	0	55,836
55-59 NO.	112	107	96	86	58	162	405	447	332	354	402	111	0	2,672
TOT PAY	4,098,727	4,527,377	4,202,559	4,280,738	2,294,080	7,944,190	21,648,109	25,295,669	19,725,715	24,063,493	27,960,234	7,853,012	0	153,893,904
AVG PAY	36,596	42,312	43,777	49,776	39,553	49,038	53,452	56,590	59,415	67,976	69,553	70,748	0	57,595
60-64 NO.	43	49	48	40	34	102	207	239	162	145	138	101	0	1,308
TOT PAY	1,592,974	1,676,236	1,979,454	1,602,153	1,360,816	4,059,246	11,212,708	13,011,973	9,138,654	8,255,278	8,901,382	7,089,011	0	69,879,885
AVG PAY	37,046	34,209	41,239	40,054	40,024	39,797	54,168	54,443	56,411	56,933	64,503	70,188	0	53,425
65-99 NO.	30	28	15	16	14	82	107	132	95	69	58	68	0	714
TOT PAY	539,382	711,866	366,010	465,150	302,655	2,210,743	5,558,593	7,153,679	5,377,578	3,667,800	3,597,842	4,361,915	0	34,313,212
AVG PAY	17,979	25,424	24,401	29,072	21,618	26,960	51,949	54,195	56,606	53,157	62,032	64,146	0	48,058
TOT NO.	2,520	2,317	1,989	1,364	814	2,754	5,128	3,999	2,242	1,519	999	285	0	25,930
TOT AMT	91,433,348	89,838,725	87,558,786	63,264,806	37,099,144	138,846,398	286,505,284	232,020,578	129,571,239	93,834,207	64,704,260	19,658,703	0	1,334,335,478
AVG AMT	36,283	38,774	44,022	46,382	45,576	50,416	55,871	58,020	57,793	61,774	64,769	68,978	0	51,459

Los Angeles City Employees' Retirement System  
**Distribution of Pensioners by Plan Year of Retirement and by Attained Age as of June 30, 2002**

Total for All Pensioners  
 Retirement Benefits

<u>Year Retired</u>	<u>Age Groups</u>								<u>Total</u>
	<u>Under 50</u>	<u>50-59</u>	<u>60-64</u>	<u>65-69</u>	<u>70-74</u>	<u>75-79</u>	<u>80-89</u>	<u>90+</u>	
Pre-1983	7	77	85	109	174	566	1,759	524	3,301
1983	0	20	9	15	26	211	203	7	491
1984	4	14	7	21	73	182	166	7	474
1985	1	12	12	15	100	130	164	2	436
1986	3	13	5	24	92	120	87	2	346
1987	4	17	15	16	138	136	106	2	434
1988	6	16	10	15	163	117	86	1	414
1989	1	22	20	69	127	138	51	2	430
1990	8	20	21	110	138	110	40	0	447
1991	8	17	11	103	116	88	27	4	374
1992	10	24	16	128	120	75	28	0	401
1993	11	8	10	163	122	71	39	1	425
1994	11	23	65	141	115	69	26	1	451
1995	28	28	108	129	94	36	13	1	437
1996	21	37	127	145	96	45	24	0	495
1997	17	72	231	138	91	37	9	0	595
1998	21	125	211	176	105	33	17	0	688
1999	24	180	163	117	61	31	9	1	586
2000	24	244	197	149	75	52	44	5	790
2001	22	280	184	127	70	49	69	5	806
2002	17	304	160	103	74	51	49	10	768
<b>TOTALS</b>	248	1,553	1,667	2,013	2,170	2,347	3,016	575	13,589

Age at Retirement: 58.9  
 Attained Age: 71.5  
 Annual Pension: \$24,758 prior to 7-01-02 Cola

**ACTUARIAL COST METHODS, ACTUARIAL ASSUMPTIONS**

**AND**

**DEFINITIONS OF TECHNICAL TERMS**



## Los Angeles City Employees' Retirement System

### **Actuarial Cost Methods - June 30, 2002**

Normal cost and the allocation of benefit values between service rendered before and after the valuation date were determined using a projected unit credit actuarial cost method. Future, anticipated compensation increases are incorporated into this method. The actuarial cost methods, as a part of the actuarial valuation report as of June 30, 2001 were last adopted by the Board on October 23, 2001.

Financing of Unfunded Actuarial Accrued Liability. Each year's actuarial gain (loss) is funded (or credited, if negative) in fifteen installments. Any liability changes due to benefit or assumption changes are funded over 30 years.

Active member payroll in aggregate is assumed to increase 4% a year for the purpose of determining the level percent contributions, although individual annual pay increase rates will increase by greater percentages per year for the purpose of projecting individual pays.

Deferred Member Actuarial Accrued Liability. Data provided includes date of hire, date of birth, date of termination, benefit service, average compensation, and accrued benefit. Accrued benefits were only provided for approximately 25% of the deferred members. Accrued benefits were calculated for the remaining 75% of the deferred members based on the data provided.

Los Angeles City Employees' Retirement System  
**Actuarial Assumptions Used for the June 30, 2002 Valuation**

The contribution requirements and benefit values of the Fund are calculated by applying actuarial assumptions to the benefit provisions and member information furnished, using the actuarial cost methods described on the previous page. The actuarial assumptions were adopted by the Board on September 10, 2002.

The principal areas of financial risk which require assumptions about future experiences are:

- (i) long-term rates of investment return to be generated by the assets of the Fund.
- (ii) patterns of pay increases to members.
- (iii) rates of mortality among members, retirants, and beneficiaries.
- (iv) rates of withdrawal of active members (without entitlement to a retirement benefit).
- (v) rates of disability among members.
- (vi) the age patterns of actual retirements.

In making a valuation, the monetary effect of each assumption is calculated for as long as a present covered person survives -- a period of time which can be as long as a century.

-----

Actual experience of the system will not coincide exactly with assumed experience, regardless of the choice of the assumptions, the skill of the actuary and the precision of the many calculations made. Each valuation provides a complete recalculation of assumed future experience and takes into account all past differences between assumed and actual experience. The result is a continual series of adjustments (usually small) to the computed contribution rate. From time to time it becomes appropriate to modify one or more of the assumptions, to reflect experience trends (but not random year-to-year fluctuations).

(Continued on Next Page)

Los Angeles City Employees' Retirement System  
**Actuarial Assumptions Used for the June 30, 2002 Valuation**

(Continued)

The Projected Unit Credit Actuarial Cost Method was used in conjunction with the following actuarial assumptions.

The investment return rate used for the actuarial valuation calculations was 8% a year, net of administrative expenses, compounded annually. This assumption, used to equate the value of payments due at different points in time, is adopted by the Retirement Board. The rate is comprised of two elements:

Inflation	4%
Real Rate of Return	<u>4%</u>
Total	8%

The inflation rate used for the actuarial valuation calculations was 4% per year, compounded annually. It represents the difference between the investment return rate and the assumed real rate of return.

Inflation actually experienced, as measured by the Consumer Price Index for urban wage earners, has been as follows:

Consumer Price Index  
Urban Wage Earners and Clerical Workers Before 1978  
All Urban Consumers After 1977  
10 Year Moving Averages

June 30, 1962	1.3 %
June 30, 1972	3.3%
June 30, 1982	8.8%
June 30, 1992	3.8%
June 30, 2002	2.5%
<b>50-Year Average</b>	<b>3.9%</b>

## Comparison of Selected Actuarial Assumptions to Actual Experience

The salary increase assumptions project annual increases in total member payroll of 4.0%, the inflation portion of the individual pay increase assumptions. In effect, this assumes no change in the number of active members. Changes actually experienced in areas related to these assumptions have been as follows:

		<u>7/01/01-</u> <u>6/30/02</u>	<u>7/01/00-</u> <u>6/30/01</u>	<u>7/01/99-</u> <u>6/30/00</u>	<u>7/01/98-</u> <u>6/30/99</u>	<b>3-Year</b> <b>Average</b>	<b>4-Year</b> <b>Average</b>
Inflation <sup>1</sup>		2.8%	3.7%	2.7%	1.9%	3.1%	2.8%
	Assumed					4.0%	4.0%
Average Pay Increase		2.1%	3.3%	2.8%	3.6%	2.7%	2.9%
	Assumed					4.0%	
<b>Merit &amp; Longevity</b>							
Pay Increase		(0.7)%	(0.4)%	0.1%	1.7%	(0.3)%	0.2%
	Assumed	1.0%	Varied depending on age				
Total Payroll		3.2%	9.4%	10.7%	5.6%	7.7%	7.2%
	Assumed					4.0%	4.0%
Investment Return Rate <sup>2</sup>		4.1%	9.1%	13.6%	14.4%	8.9%	10.2%
	Assumed					8.0%	8.0%
<b>Real Rate of</b>							
Investment Return		1.3%	5.4%	10.9%	12.5%	5.8%	7.4%
	Assumed					4.0%	4.0%

<sup>1</sup> Based on Consumer Price Index for Los Angeles-Riverside-Orange County, All Items, 1982-84=100.

<sup>2</sup> Based on actuarial value of assets NOT market value or book value.

Los Angeles City Employees' Retirement System  
**Actuarial Assumptions Used for the June 30, 2002 Valuation**

(Continued)

Compensation increase rates used to project current pays to those, upon which a benefit will be based, are represented by the following table.

Annual Rate of Compensation Increase

Inflation                      4%

plus

Merit & Longevity        1%

Members with less than 5 years of service receive an additional merit increase based on the following table:

<u>Service</u>	<u>All Members</u>
0	4.0%
1	3.5
2	3.0
3	2.0
4	1.5

Los Angeles City Employees' Retirement System

**Actuarial Assumptions Used for the June 30, 2002 Valuation**

(Continued)

Rates of separation from active membership are shown below (rates do not include separation on account of retirement or death) and are significantly lower than in the 2001 valuation. This assumption measures the probabilities of members remaining in employment.

Sample <u>Ages</u>	% of Active Members Separating Within Next Year			
	<u>Withdrawal</u>	<u>Death</u>		<u>Disability</u>
	<u>All Members</u>	<u>Men</u>	<u>Women</u>	<u>All Members</u>
20	6.25%	.03%	.02%	.00%
25	5.75	.04	.03	.01
30	5.25	.06	.05	.02
35	3.75	.08	.07	.07
40	2.75	.12	.10	.12
45	2.25	.17	.14	.17
50	1.70	.23	.18	.20
55	1.45	.32	.26	.20
60	1.20	.44	.42	.00

NOTE: Withdrawal rates for actives with less than 5 years of service are as follows and supercede the above probabilities:

<u>Service</u>	<u>Rate</u>
0	8.25%
1	7.25
2	6.75
3	6.50
4	6.25

Los Angeles City Employees' Retirement System

**Actuarial Assumptions Used for the June 30, 2002 Valuation**

(Continued)

The post-retirement mortality table used was the 1994 Male Group Annuity Mortality Table, setback three years for females (In the 2001 valuation, the 1971 Group Annuity Mortality Table, with setbacks, was used). This assumption is used to measure the probabilities of members dying after retirement and the probabilities of each benefit payment being made after retirement. The 1981 Disability Mortality Table (General) is used for male disabilitants, the table was setback five years for female disabilitants (No setback for female disabilitants was used in the 2001 valuation). Related values are shown below.

Sample	Future Life Expectancy (Years)		% Dying Within Next Year	
	Non-disabled Retirees		Non-disabled Retirees	
<u>Ages</u>	<u>Men</u>	<u>Women</u>	<u>Men</u>	<u>Women</u>
45	34.7	37.5	.17%	.13%
50	30.0	32.8	.28	.20
55	25.4	28.2	.48	.35
60	21.2	23.7	.86	.60
65	17.3	19.6	1.56	1.09
70	13.8	15.8	2.55	1.94
75	10.7	12.5	4.00	3.06

Sample	Future Life Expectancy (Years)		% Dying Within Next Year	
	Disabled Retirees		Disabled Retirees	
<u>Ages</u>	<u>Men</u>	<u>Women</u>	<u>Men</u>	<u>Women</u>
45	23.6	26.2	2.08%	1.76%
50	21.1	23.6	2.44	2.08
55	18.7	21.1	2.84	2.44
60	16.4	18.7	3.30	2.84
65	14.1	16.4	3.79	3.30
70	11.7	14.1	4.37	3.79
75	9.2	11.7	5.53	4.37

Los Angeles City Employees' Retirement System  
**Actuarial Assumptions Used for the June 30, 2002 Valuation**

(Continued)

The rates of retirement used to measure the probability of eligible members retiring during the next year and were revised from the 2001 valuation.

<u>Retirement Ages</u>	<u>All Members</u>
50	1.0%
51	1.0
52	1.0
53	1.0
54	2.0
55	9.0
56	10.0
57	10.0
58	12.0
59	12.0
60	20.0
61	15.0
62	25.0
63	10.0
64	15.0
65	26.0
66	23.0
67	23.0
68	23.0
69	23.0
70	100.0

For the special early retirement window, which provides unreduced pensions to employees age 50 and older with 30 or more years of service who retire prior to September 30, 2003, we assumed those eligible would retire at a rate of 25% per year.

Once a member is eligible for retirement, we assumed that the probability of withdrawal is “turned-off”; thus the liability is valued as a potentially immediate benefit rather than a deferred benefit at age 60.

For current deferred vested members, we assume that benefits will commence at the later of age 60 or current attained age. We assume that none of the deferred vested members are reciprocal.



Los Angeles City Employees' Retirement System  
**Actuarial Assumptions Used for the June 30, 2002 Valuation**

(Continued)

Survivor Benefits. Marital status and spouses' census data were imputed with respect to active and deferred members.

Marital Status – 76% of men and 50% (56% was used in the 2001 valuation) of women were assumed married or having a domestic partner at retirement.

Spouse Census – Women were assumed to be 4 years younger than men.

Retention Rates

Probability of Working to Age 55

<u>Age</u>	
Under 25	26.0%
25-29	35.5
30-34	46.9
35-39	58.1
40-44	68.8
45-49	78.8
50-54	90.4

Probability of Working 10 Years

<u>Age</u>	
45-49	61.9%
50-54	30.5
55-59	13.3
60-64	8.6

Los Angeles City Employees' Retirement System  
**Summary of Actuarial Assumptions and Methods**  
**Used for Valuation of Health Subsidy Benefits**

Methods: Future cash flows were projected by applying medical trend rate factors to current annual claim rates.

Discount on Projected Cash Flows: 8% per year.

Medical Trend Rates:

	Medical Trend			Dental Trend Pre and Post 65	Medicare Part B
	Pre-65	Post 65			
		HMO	PPO		
2002-2003	8.00%	13.00%	9.00%	7.50%	6.00%
2003-2004	7.75%	12.00%	8.75%	7.25%	6.00%
2004-2005	7.50%	11.00%	8.50%	7.00%	6.00%
2005-2006	7.25%	10.00%	8.25%	6.75%	6.00%
2006-2007	7.00%	9.00%	8.00%	6.50%	6.00%
2007-2008	6.75%	9.50%	7.75%	6.25%	6.00%
2008-2009	6.50%	8.00%	7.50%	6.00%	6.00%
2009-2010	6.25%	7.50%	7.25%	6.00%	6.00%
2010-2011	6.00%	7.00%	7.00%	6.00%	6.00%
2011-2012	6.00%	6.75%	6.75%	6.00%	6.00%
2012-2013	6.00%	6.50%	6.50%	6.00%	6.00%
2013-2014	6.00%	6.25%	6.25%	6.00%	6.00%
2014 +	6.00%	6.00%	6.00%	6.00%	6.00%

Los Angeles City Employees' Retirement System  
**Summary of Actuarial Assumptions and Methods**  
**Used for Valuation of Health Subsidy Benefits**

Mortality:	UP 94 with a 3 year age setback for females. (Previously, 1971 Group Annuity Mortality Table, with a one-year age setback for males and a five-year age setback for females.)
Probability of Termination of Employment:	Same rates as used in valuation of retirement benefits. See retirement report for details.
City Medical Plan Coverage:	80% of all retirees are assumed to receive a subsidy for a City approved health carrier.
Spouses and Domestic Partners:	91% of male and 66% of female retirees who receive a subsidy are assumed to be married or have a qualified domestic partner and elect dependent coverage.
Medicare Coverage:	85% of retirees are assumed to elect Medicare Parts A & B.
Dental Coverage:	65% of retirees are assumed to elect dental coverage.
Spousal Coverage:	With regard to Members who are currently alive, 75% of eligible spouse or domestic partners are assumed to elect continued health coverage after the Member's death. With regard to deceased Members, 70% of the current eligible survivors are assumed to elect health coverage.
Funding Method:	Projected Unit Credit Funding Method (only those members with 10 or more years of service are valued).
Asset Valuation Method:	The actuarial value of assets is determined by phasing in, over five years, the difference between the actual and expected realized and unrealized appreciation. The expected appreciation is based on the assumed 8.00% rate of return. The actuarial value of assets can be no less than 80% and no greater than 120% of the market value of assets.

**Definitions of Technical Terms**

Actuarial Accrued Liability. The difference between the actuarial present value of system benefits and the actuarial value of future normal costs. Also referred to as "accrued liability" or "actuarial liability".

Actuarial Assumptions. Estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Actuarial assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

Accrued Service. Service credited under the system which was rendered before the date of the actuarial valuation.

Actuarial Equivalent. A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate actuarial assumptions.

Actuarial Cost Method. A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of retirement system benefits between future normal cost and actuarial accrued liability. Sometimes referred to as the "actuarial funding method".

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 amount of funds currently required to provide a payment or series of payments in the future. It is determined by discounting future payments at predetermined rates of interest, and by probabilities of payment.

Amortization. Paying off an interest-discounted amount with periodic payments of interest and principal -- as opposed to paying off with lump sum payment.

Normal Cost. The actuarial present value of retirement system benefits allocated to the current year by the actuarial cost method.

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.

(Concluded on Next Page)

**Definitions of Technical Terms**

(Concluded)

Unfunded Actuarial Accrued Liability. The difference between actuarial accrued liability and valuation assets. Sometimes referred to as "unfunded actuarial liability" or "unfunded accrued liability".

Most retirement systems have unfunded actuarial accrued liability. They arise each time new benefits are added and each time an actuarial loss is realized.

The existence of unfunded actuarial accrued liability is not in itself bad, any more than a mortgage on a house is bad. Unfunded actuarial accrued liability does not represent a debt that is payable today. What is important is the ability to amortize the unfunded actuarial accrued liability and the trend in its amount (after due allowance for devaluation of the dollar). Unfunded actuarial accrued liability must be controlled.



**DISCLOSURES REQUIRED BY  
STATEMENTS NO. 25 AND 27 OF  
THE GOVERNMENTAL ACCOUNTING STANDARDS BOARD**

Los Angeles City Employees' Retirement System

**GASB No. 25 Disclosure  
Schedule of Funding Progress  
Retirement Benefits**

(\$ in Thousands)

<u>Valuation Date</u>	<u>Valuation Assets</u>	<u>Actuarial Accrued Liability</u>	<u>Unfunded AAL</u>	<u>Funded Ratio</u>	<u>Member Payroll</u>	<u>UAAL Ratio to Payroll</u>
6/30/96	\$4,468,433	\$4,476,024	\$7,591	99.8%	\$957,423	0.8%
6/30/97	4,802,509	4,886,337	83,828	98.3	990,616	8.5
6/30/98	5,362,923	5,312,918	(50,005)	100.9	1,011,857	(4.9)
6/30/99	5,910,948	5,684,586	(226,362)	104.0	1,068,124	(21.2)
6/30/00	6,561,365	6,012,931	(548,434)	109.1	1,182,203	(46.4)
6/30/01	6,988,782	6,468,066	(520,716)	108.1	1,293,350	(40.3)
6/30/02	7,060,188	7,252,118	191,930	97.4	1,334,335	14.4

Los Angeles City Employees' Retirement System

**GASB No. 25 Disclosure  
Schedule of Employer Contributions  
Retirement Benefits**

<u>Year Ended June 30</u>	<u>Actuarially Required Contributions (ARC)<sup>1</sup></u>	<u>Contributions Made<sup>1</sup></u>
1997	\$88,799,922	100%
1998	64,459,744	100%
1999	69,248,626	100%
2000	72,146,277	100%
2001	59,153,313	100%
2002	32,296,002 <sup>1</sup>	100%

<sup>1</sup> Exclusive of Health Subsidy contributions of \$27,589,038 and FDB contributions of \$195,000. Defrayals not included in this figure.



**COMPREHENSIVE  
ANNUAL FINANCIAL  
REPORT EXHIBITS**

Los Angeles City Employees' Retirement System

**Solvency Test for Retirement Benefits**

For Years Ended June 30

(In Thousands)

Valuation Date	Aggregate Accrued Liabilities For				Portion of Accrued Liabilities Covered by Reported Assets		
	(1)	(2)	(3)	Reported Assets*	(1)	(2)	(3)
	Member Contributions	Retirants, Beneficiaries, & Deferred Vesteds	Active Member		Assets*		
6-30-96	\$637,737	\$2,357,798	\$1,480,489	\$4,468,433	100.0%	100.0%	99.5%
6-30-97	683,048	2,598,432	1,604,857	4,802,509	100.0	100.0	94.8
6-30-98	733,680	2,772,712	1,806,526	5,362,923	100.0	100.0	100.0
6-30-99	776,617	2,989,218	1,918,751	5,910,948	100.0	100.0	100.0
6-30-00	827,729	3,149,392	2,035,810	6,561,365	100.0	100.0	100.0
6-30-01	889,658	3,444,240	2,134,168	6,988,782	100.0	100.0	100.0
6-30-02	950,002	3,756,935	2,545,181	7,060,188	100.0	100.0	92.5

\* Actuarial Value of Assets excluding the FDBIP and Health Subsidy assets.

Los Angeles City Employees' Retirement System

**Retirants and Beneficiaries Added To and Removed From the Rolls\***

<u>Year Ended</u>	<u>No. of New Retirants/ Beneficiaries</u>	<u>Annual Allowances Added</u>	<u>No. of Retirants/ Beneficiaries Removed</u>	<u>Annual Allowances Removed</u>	<u>No. of Retirants/ Beneficiaries at 6/30</u>	<u>Annual Allowances at 6/30</u>	<u>% Increase in Annual Allowances</u>	<u>Average Annual Allowances</u>
6/30/01	773	22,866,958	466	6,436,730	13,365	316,057,216	8.6%	23,648
6/30/02	844	23,740,829	620	11,316,344	13,589	336,437,038	6.4%	24,758

\* Does not include Family Death Benefit Insurance Plan members. Table based on valuation data.

**APPENDIX A:**  
**MEMBER CONTRIBUTION RATES**

Los Angeles City Employees' Retirement System

**Contribution Rates Assumed for Members**

Participating Before February 1, 1983

<u>Age</u>	<u>Normal</u>	<u>Survivor</u>	<u>Total</u>	<u>Age</u>	<u>Normal</u>	<u>Survivor</u>	<u>Total</u>
16	8.00%	0.22%	8.22%	40	10.19%	0.91%	11.10%
17	8.04	0.28	8.32	41	10.29	0.92	11.21
18	8.08	0.33	8.41	42	10.41	0.93	11.34
19	8.14	0.39	8.53	43	10.52	0.94	11.46
20	8.20	0.44	8.64	44	10.64	0.95	11.59
21	8.27	0.48	8.75	45	10.76	0.97	11.73
22	8.34	0.53	8.87	46	10.89	0.98	11.87
23	8.42	0.56	8.98	47	11.01	0.99	12.00
24	8.50	0.60	9.10	48	11.12	1.00	12.12
25	8.58	0.63	9.21	49	11.24	1.01	12.25
26	8.66	0.66	9.32	50	11.34	1.03	12.37
27	8.75	0.68	9.43	51	11.44	1.05	12.49
28	8.86	0.70	9.56	52	11.55	1.06	12.61
29	8.96	0.72	9.68	53	11.65	1.07	12.72
30	9.06	0.75	9.81	54	11.75	1.08	12.83
31	9.17	0.77	9.94	55	11.85	1.09	12.94
32	9.28	0.79	10.07	56	11.94	1.10	13.04
33	9.40	0.81	10.21	57	12.03	1.12	13.15
34	9.50	0.82	10.32	58	12.13	1.13	13.24
35	9.61	0.83	10.44	59 - Over	12.19	1.14	13.33
36	9.73	0.85	10.58				
37	9.84	0.86	10.70				
38	9.96	0.87	10.83				
39	10.07	0.90	10.97				

Total is applicable only to employees whose Normal and Survivor Rates are assigned by the same age.