### LABORERS' AND RETIREMENT BOARD EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO

### **ACTUARIAL STATEMENT**

December 31, 1989

Prepared by

**Donald F. Campbell Consulting Actuaries** 

SUMMARY	1988	1989
Income Investment	\$ 42,386,313	\$ 66,965,633
Employer	15,157,663	15,257,738
Employee	11,740,621	12,529,606
Total	69,284,597	94,752,977
Outgo		
Refunds, Benefits, Expenses	\$ 31,488,725	\$ 33,771,961
Excess of Income Over Outgo	\$ 37,795,872	\$ 60,981,016
Active Participants	4,725	4,592
Inactive Participants	1,546	1,524
Beneficiaries		
Employee	2,494	2,476
Spouse Disabilities	1,265 262	1,295 217
Children	202 79	80
Children	12	00
Actuarial		
Funding - Going Concern		
Liability	\$604,440,661	\$633,894,540
Assets - Book Value	584,899,234	646,313,443
Unfunded Liability (Surplus) Funded Ratio	19,541,427 96.77%	(12,418,903) 101.96%
Actuarial Requirement (ER and EE)	21,217,142	5,987,396
Deficiency (Excess) in Annual Contribution	(4,898,895)	(8,914,080)
Required Employer Multiple	1.03	.56
(Normal Cost Plus Interest)		
Termination		
Liability	\$362,818,299	\$384,964,450
Cost (Excess) on Termination	(222,080,935)	(261,348,993)
Quick Ratio	161%	168%
Vested - Termination Liability	\$558,761,115	\$594,007,120
Unfunded Liability (Surplus)	(26,138,119)	(52,306,326)
Funded Ratio	104.68%	108.81%
GASB - Going Concern		
Liability - APV Credited Projected	\$541,629,895	\$568,750,487
Unfunded Liability (Surplus)	(43,269,339)	(77,562,956)
Funded Ratio	107.99%	113.64%
Investment	<b></b>	
Invested Assets (Book Value)	\$574,105,300	\$632,434,949
Invested Assets (Market Value)	580,312,390	673,607,255
Miscellaneous		
Salary Roll	\$132,685,608	\$142,024,296
Average Salary	28,082	30,929

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## LABORERS' A&B FUND ASSETS AND LIABILITIES



## LABORERS' A&B FUND FUNDING RATIOS











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### EMPLOYEES BY AGE AND SERVICE 1989





EMPLOYEES BY AGE AND SERVICE 1989



### EMPLOYEES BY AGE AND SERVICE 1979



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# ANNUITANTS BY AGE 1989





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# ANNUITANTS BY AGE 1989

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### YIELD ON TOTAL ASSETS BOOK



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ACTUARIAL COST



# ACTUARIAL DEFY (EXCESS)



I

April 16, 1990

The Retirement Board of the Laborers' and Retirement Board Employees' Annuity and Benefit Fund of Chicago Chicago, Illinois

Gentlemen:

This is to certify that the annual statement as of December 31, 1989, of the Laborers' and Retirement Board Employees' Annuity and Benefit Fund of Chicago is, to the best of our knowledge and belief, a true and correct statement of the affairs and conditions of said Fund for the calendar year 1989. This statement has been prepared from the unaudited books of the Fund as substantiated by our letters of recommendation to the Retirement Board.

The accounting procedure is outlined in Article 11 of the Illinois Pension Code.

The method of valuation, or method of financing the system, and the actuarial assumptions and methods used in the valuation are shown in a separate exhibit. The attempt is made to give effect to realistic valuation factors affecting costs.

This statement has been prepared in accordance with generally accepted actuarial principles and practice.

The costs for each of the alternative methods of funding the unfunded accrued liability as required by the Illinois Pension Code Article 22-501.10 are shown in this report. These include:

- 1. interest only on the unfunded liability;
- 2. the level annual amount required to amortize the unfunded accrued liability over a period not exceeding 40 years; and
- 3. the amount required for the current year to amortize the unfunded accrued liability over a period not exceeding 40 years as a level percentage of payroll.

The actuarial present value of credited projected benefits is shown in a separate exhibit.

The graph of assets and liabilities illustrates the Fund's position with respect to asset growth and accrued liability growth for the various ways of measuring the liabilities. Please note that the difference between the assets and the liability is what is called unfunded liability (or surplus).

The next graph of funded ratios displays the ratio of assets to liabilities for the various different measures of liability.

The next graph illustrates the income of the Fund--investment income plus employer contributions plus employee contributions--and the current payouts of the Fund benefits, refunds, and expenses. The excess or net of income over payouts goes to build reserves for future benefit payments.

#### **Actuarial Assumptions**

Actuarial assumptions required by ERISA must take into consideration anticipated future experience as well as past experience. As a guide to our thinking, we consulted two recent studies in an attempt to learn what interest and salary scale assumptions are being used to anticipate the future in other public and private pension fund valuations.

Greenwich Reports' 1990 survey, <u>Suggestion:</u> Stress Strategy, shows that the mean actuarial interest rate assumption for public funds (based on 370 public funds) went from 7.8% in 1988 to 7.9% in 1989. The corresponding salary increase assumption for public funds went from 5.9% to 5.8%. Corporate funds' actuarial assumptions tended to be higher in the interest assumption (8.7% to 8.8%) and lower in the salary assumptions (5.4% to 5.5%). For the 1989 survey, the average monthly benefit paid to all public retirees was \$651, or \$970 to new public retirees. These benefits are somewhat higher than those paid to retirees of corporate funds (\$520 and \$774); however, corporate retirees also receive Social Security payments. Based on the <u>1990 Yearbook of Stocks, Bonds, Bills and Inflation</u> published by Ibbotson Associates, Chicago, Illinois, we find the following results based on historical data for the past 64 years for the period 1926 through 1989.

	Total Annual Return	Inflation	Net
Common Stocks	10.3%	3.1%	7.2%
Small Stocks	12.2	3.1	9.1
Long-Term Corporate Bonds	5.2	3.1	2.1
Long-Term Government Bonds	4.6	3.1	1.5
Intermediate Term Gov't Bonds	4.9	3.1	1.6
U.S. Treasury Bills	3.6	3.1	0.5
Inflation for the past 5 years	1985-1989	3.7%	
10 years	1980-1989	5.1	
20 years	1970-1989	6.2	
30 years	1960-1989	5.0	
40 years	1950-1989	4.3	
64 years	1926-1989	3.1	

Based on these studies, it is our opinion that for this Fund, an 8.0% future interest assumption would be a reasonable rate for valuation purposes and that a 6% per year salary scale would also be reasonable. These assumptions take into consideration generally expected future investment earnings and the generally accepted views on future salary increases for our national economy. They could be characterized as being middle of the road.

The valuation includes the cost of the following amendments passed in 1989:

- 1. Eliminate age-related discriminatory provisions as required by Federal law or regulation.
- 2. Eliminate the \$300, \$400 or \$500 maximum spouse annuity limitation for spouses of employees retiring before January 23, 1987 but dying after January 23, 1987.
- 3. Allow local labor officials on a leave of absence from the Fund to contribute for their current service as a local labor official.
- 4. Change the amount of Fund paid health insurance "supplement" from January 1, 1988 until December 31, 1992 to \$65 per month for each annuitant not qualified to receive Medicare benefits (and \$35 if qualified) and from January 1, 1993 until December 31, 1997 the amounts are \$75 and \$45, respectively. Widows will now be supplemented and employees will no longer be required to meet the age 65 and 15 years of service requirement. For valuation purposes the subsidy has been valued for life.

The Fund has received a payment as part of the settlement of the Ryan lawsuit which is included in the Fund's income. No future payments are included in this report.

This year, the liabilities and costs in this report are based in part on an 8.0% per year interest assumption (net of investment expense). The current service cost (normal cost) no longer includes an amount for investment expense which is instead a deduction from investment income. Last year the interest rate assumption was 7.5% per year on gross investment income. All other assumptions are the same as those used for the last report. We have included market yield figures (net of investment expenses) in Exhibit O.

In our opinion, these actuarial assumptions in the aggregate are reasonable, taking into account fund experience and future expectations, and represent the best estimate of anticipated experience.

#### **Alternative Valuations**

We are currently making alternative valuations giving effect to different rates of salary increases and investment earnings to serve as a guide to the Retirement Board and ourselves in estimating the effects on costs of possible future variations from the assumptions used. These can be submitted at a later time.

#### Actuarial Obligations of the Fund

The value of all future pension payments calculated using the actuarial assumptions contained in this report is the sum of payments to two major groups of beneficiaries.

#### 1. Retired Lives

For those currently receiving known benefits, i.e., current retirees, widows, and children, the value is determined based on estimated future longevity with the future benefit payments discounted to the present time at the assumed investment earnings rate.

Group	Number	Present Value of Future Benefits
Employee Annuity	2,476	\$155,958,134
Annuity Increase	2,327	27,633,835
Future Widow Benefit	1,582	16,260,918
Lump Sum Death Benefit	0	0
Health Insurance Supplement	2,121	10,165,807
Widow Annuity	1,295	31,498,316
Widow Compensation	1	2,115
Total Retired Reserve		\$241,519,125

#### 2. Active Lives

The value of future payments for active employees who will receive benefits in the future is estimated, since the amount of pension is only known at the actual time of retirement. This estimate is made using various actuarial assumptions as to future salary increases, probable retirement age, and chance of death, withdrawal, or disablement before retirement. For active employees, the goal is to have enough assets on hand at retirement to pay for all future benefits promised. To provide for an orderly accumulation of these required assets, an actuarial funding method is used. Using the entry age normal funding method, assets are allocated as a level amount (expressed as a percentage of salary) over the employee's working lifetime. These allocated costs are called "normal costs" and are sufficient, if set aside each year, for a newly hired employee to accumulate the amount required to fully fund his or her benefits when and if he or she retires. For an employee who has completed half his or her working lifetime, roughly half of the required retirement assets should have been accumulated. The actuarial reserve (amount of assets needed now) is then the present value of future benefits less the value of future normal costs to be paid.

Benefit	Present Value of Benefits	Reserve
Employee Annuity	\$362,489,602	
Annuity Increase	75,148,263	
Future Widow/Widower Benefit	35,575,748	
Lump Sum Death Benefit	0	
Health Insurance Supplement	10,492,031	
Widow/Widower of Employees, Dying in Service	20,079,699	
Widow/Widower Compensation, Duty Death	0	
Miscellaneous	74,745,193	
Total Active	\$578,530,536	
Total Active and Retired Present Value of Benefits	\$820,049,661	
Less Present Value of Future Normal Costs		<u>\$186,155,121</u>
Net Active Reserve		392,375,415
Net Active Reserve and Retired		633,894,540
Less Present Assets		646,313,443
Surplus		\$12,418,903

The difference between the sum of the actuarial reserve for active and retired lives (sometimes called the "Accrued Actuarial Liability") and the present assets is called the "Unfunded Liability." If assets exceed liability, there is a surplus. The unfunded liability depends upon the benefits, the characteristics of the covered group of employees and retirees, the actuarial assumptions, and the actuarial funding method. The unfunded liability can be thought of as the amount of assets that will be needed in future years to provide for all future benefits payable when added to the future normal costs determined by the actuarial funding method.

#### **Actuarial Balance**

For the pension fund to be in actuarial balance, the present value of all benefits payable in the future must equal the sum of present assets plus present value of all future contributions. Future contributions from the employee and employer must provide for the payment of normal costs and for amortization of the unfunded liability on some reasonable basis.

			Present Value	% of Total
Present Assets			\$646,313,443	79%
Future Employee Con	ntributions		127,742,972	16
Future Employer Cor	tributions		168,007,557	
Deficiency (Excess)		(	122,014,311)	( <u>15</u> )
Total			\$820,049,661	100%
Present Value of	Actuarial Assets	% of Total	Actuarial Liabilities	% of Total
Benefits				
Retired Lives			\$241,519,125	30%
Active Lives			578,530,536	70
Present Assets	\$646,313,443	79%		
Normal Costs	186,155,121	23		
Unfunded Liability (Surplus)	( <u>12,418,903</u> )	( <u>2</u> )		
Total	\$820,049,661	100%	\$820,049,661	100%

The pie charts illustrate:

- 1. Actuarial Present Value of Future Benefits
- 2. Actuarial Assets
- 3. Actuarial Cost Method

#### 1. Normal Cost Plus Interest Method

The method of valuation used for this report is the same as for the last report. It is the method that was used and is intended to continue the current provisions of the Article governing the fund in full force and effect on a permanent basis, explained in detail in the Section "Actuarial Assumptions and Methods." The method is also referred to as a middle of the road method of funding since the unfunded liability is recognized but not amortized.

The normal cost plus interest only method of funding is that recommended by the Illinois Public Employees' Pension Laws Commission. It was also the minimum required for private pension plans for IRS qualification before ERISA.



#### 2. Normal Cost Plus 40 Year Amortization Method

ERISA minimum funding standards require that initial unfunded liability existing on January 1, 1976 be amortized over a 40 year period. We have calculated the cost of amortizing the existing unfunded liability.

Both of these first two cost methods, the normal cost plus interest method and the normal cost plus 40 year amortization method, express the past service costs as a level annual dollar amount. Consequently, as the total payroll increases in the future, the level annual amount becomes a decreasing percent of the total payroll.

Under both methods, level dollar amounts represent a greater percent of payroll initially and a decreasing percent of payroll as future payrolls increase.



#### 3. Level Annual Percent of Payroll Method

An alternative method for funding that is receiving increased attention for public employee pension plans is a method that sets the funding standard cost objective as a level annual percent of payroll rather than as a level annual amount. This method will result in increasingly greater dollar amounts each year as payrolls increase.



This constant percent of payroll method is not an acceptable method under ERISA. It may be more acceptable in the future in view of the presumably permanent nature of public retirement systems with a constant flow of new entrants and the desire to place a relatively constant tax burden (as percentage of salary) on future generations of taxpayers. Please note that if this amount is recomputed each year with the same amortization period, the unfunded liability will never be amortized.

For the Retirement Board's guidance, we have estimated the financial effects of different amortization methods. The costs under these funding methods are contingent upon all actuarial assumptions being met and continued active membership at the same level. These three methods meet the requirements set forth in Illinois Revised Statutes, Chapter 108-1/2, Article 22-501.10. This year the required tax levy for all three methods is the same since there is no unfunded liability. The results are given in the following table:

		Required 1990 Tax Levy <sup>1</sup>	Ultimate Required Multiple <sup>1</sup>
1.	Normal Cost Plus Interest Only	\$ 5,987,396	0.56
2.	ERISA: Normal Cost Plus 40-Year Amortization	\$ 5,987,396	0.56
3.	Normal Cost Plus 40-Year Level % of Payroll Increasing 4% a Year (Inflation Only)	\$5,987,396	0.56
4.	Present Law (Includes Park)	\$15,273,000	1.37

<sup>1</sup>Assuming all valuation assumptions are realized and no future benefit liberalization.

The preceding table indicates that the Fund is more than meeting the annual actuarial cost on an actuarial basis using any of the three methods, future annual costs expressed both as a level annual dollar amount and as a level annual percent of payroll.

In determining funding policy it is essential to provide a margin of safety for unfavorable operating experience such as salaries over anticipated salaries, decreasing age of retirement, increasing longevity, and declining fund membership.

#### **Required Actuarial Contribution**

Based on the normal cost plus interest method of funding, we find that the tax levy for 1990 should be \$5,987,396, which amount includes a 4% reserve for loss on collection. This amount is based on an annual payroll (as of December 31, 1989) of \$142,024,296 and an active membership of 4,592 persons. The detail is shown in the table that follows.

#### **Detail of Annual City Contribution**

	Last Year Amount	This Year Amount	Last Year Percent of Salary	This Year Percent of Salary	Last Year Dollars Per Active Member	This Year Dollars Per Active Member
1. Normal Cost for Current Service	\$19,803,585	\$17,819,965	14.93%	12.55%	\$4,191	\$3,881
2. Interest on Unfunded Liability	<u>\$ 1,413,557</u>	0	1.07%	0.00%	<u>\$ 299</u>	<u>\$0</u>
3. Total Actuarial Requirement (1 + 2)	<u>\$21,217,142</u>	<u>\$17,819,965</u>	<u>15.99%</u>	<u>12.55%</u>	<u>\$4,490</u>	<u>\$3,881</u>
4. Employee Contributions	\$11,278,277	\$12,072,065	8.50%	8.50%	\$2,387	\$2,629
5. Employer Requirement (3 - 4)	\$9,938,865	\$5,747,900	7.49%	4.05%	\$2,103	\$1,252
6. Expected Net Employer Contribution from Tax Levy	\$15,456,000	\$15,273,000				
After a 4% Loss	<u>\$14,837,760</u>	<u>\$14,662,080</u>	<u>11.18%</u>	<u>10.32%</u>	<u>\$3,140</u>	<u>\$3,193</u>
7. Expected Net Annual Deficiency (Excess)	(\$4,898,895)	(\$8,914,180)	(3.69%)	(6.28%)	(\$1,037)	(\$1,941)
8. Tax Levy Required (Assume 4% Loss)	\$10,352,984	\$5,987,396				
9. Required Multiple	1.03	0.56				
10. Present Authorized Multiple	1.37	1.37				
11. Amortization Period	4 Years	N/A				

The "Illinois Public Employees' Pension Laws Commission Impact Statement," appended to this report, illustrates both the present financial position and the direction of the financial condition.

The above table indicates that the Fund is more than meeting the annual actuarial cost on the normal cost plus interest basis.

The bar chart illustrates the annual actuarial cost for the next year (composed of current service cost and past service cost) to be paid for by the employee and the employer. The annual cost is more than being met. The employer portion is provided by tax levy (the third column).

	Last Year % of Salary	This Year % of Salary	Last Year \$/Active Member	This Year \$/Active Member
Retirement Annuity	6.88%	6.00%	\$1,930	\$1,858
Post-Retirement Annuity Increase	1.46	1.25	411	386
Post-Retirement Spouse Annuity	0.70	0.60	197	185
Spouse Annuity for Death in Service	0.61	0.55	171	169
Health Insurance	0.03	0.19	8	56
Child's Annuity	0.10	0.08	27	25
Ordinary Disability	0.90	0.80	252	248
Duty Disability	1.03	0.95	290	295
Refunds	1.32	1.29	372	400
Widows'/Widowers' Compensation	0.00	0.00	0	0
Expense of Administration	1.71	0.67 <sup>1</sup>	479	207
Reciprocal Benefits	<u>0.19</u>	<u>0.17</u>	54	52
<sup>1</sup> Net of investment evpense	14.93%	12.55%	\$4,191	\$3,881

<sup>1</sup>Net of investment expense.

#### Change in the Unfunded Liability

The total funded surplus as of December 31, 1989 is \$12,418,903. As of December 31, 1988, the total unfunded liability was \$19,541,427. The unfunded liability was eliminated, meaning all past service has been paid for.

#### Detail of Change in Unfunded Liability

1.	Increase in Salaries over 6.0% Assumed		\$15,101,648	Increase
2.	Investment Yield over 7.5% Assumed		(23,284,941)	Decrease
3.	Excess in Annual Contribution:			
	1989 Total Actuarial Requirement Less Employer Net to Fund 1989 Tax Levy Less Employee Contributions for 1989	\$21,217,142 15,257,738 <u>12,529,606</u>	(6,570,202)	Decrease
4.	Change in Benefits		20,350,471	Increase
5.	Change in Assumptions		(39,817,812)	Decrease
6.	Miscellaneous Actuarial Experience		2,260,506	Increase
	Net Change in Unfunded Liability		(\$31,960,330)	Decrease

See the historical tabulation in the back of this report.

#### Funded Ratio

The ratio of assets to liabilities is 101.96% as of December 31, 1989, and was 96.77% as of December 31, 1988. This ratio represents the extent to which present and future benefit promises are secured by present assets. The funded ratio increased because assets increased 10.5% while liabilities increased 4.9%.

#### Ratio of Active Employees to Annuitants and Beneficiaries

The ratio of active employees to annuitants and beneficiaries is 1.13 as of December 31, 1989, and was 1.15 as of December 31, 1988. This ratio illustrates the relationship between the contributors and the beneficiaries.

#### **Termination Liability**

A measure of plan funding is to compare the assets to liabilities for present annuitants and the amount of refundable contributions for active and inactive employees. This amount would be a minimum measure of what it would cost to terminate the plan as of the valuation date.

	1988	1989
Liability for Retired Annuitants and Widows/Widowers Spouses of Annuitants	\$229,024,543	\$241,519,125
Salary Deductions Contributed by Active Fund Members	<u>\$133,793,756</u>	<u>\$143,445,325</u>
Total	\$362,818,299	384,964,450
Assets at Book Value	<u>\$584,899,234</u>	<u>\$646,313,443</u>
Excess Upon Termination	\$222,080,935	\$261,348,993
Available Assets for Actives (Retirees Fully Funded)	\$355,874,691	\$404,794,318
Available Per Active Employee	\$75,317	\$88,152
Refundable per Active Employee	\$28,316	\$31,236
Ratio of Available to Refundable	266%	282%

We have computed the value of vested benefits for active employees. That is, an employee who is eligible to retire, either with an immediate or deferred retirement annuity, is assumed to retire and is valued at the estimated amount of annuity for the employee's life. The value of estimated post retirement annuity increase and estimated spouse annuity is added. No death or disability benefits for those dying or becoming disabled in the future are included. Active employees not currently eligible for a retirement benefit are valued at the amount of their refundable accumulated salary deductions with statutory interest. Retired lives are entirely vested. The total vested liability computed using the actuarial assumptions of interest and mortality in this report is greater than the termination liability because the value of a retirement annuity for an eligible employee is greater than the amount of his or her accumulated salary deductions.

	1988	1989
Liability for Retired Annuitants and Widows/ Widowers and Spouses of Annuitants	\$229,024,543	\$241,519,125
Value of Active Employees Eligible to Retire	\$247,984,956	\$264,497,917
Accumulated Salary Deductions of Active Employees Eligible for Refund and Not Annuity	\$81,751,616	\$87,990,078
Active Vested Liability	<u>\$329,736,572</u>	<u>\$352,487,995</u>
Total Vested Liability	\$558,761,115	\$594,007,120
Assets at Book Value	<u>\$584,899,234</u>	<u>\$646,313,443</u>
Unfunded Vested Liability	(\$26,138,119)	(\$52,306,326)
Vested Funded Ratio	104.68%	108.81%

The average amount of assets required per active employee to provide for vested benefits as of the valuation date is \$76,761. This should be compared to the average amount of assets required per active employee to fully fund the present amount required to provide for future projected retirement annuity assuming future service and salary increments-using the entry age normal funding method described in the actuarial assumptions and methods. This amount per active employee is \$85,448.

#### GASB Disclosure

The Governmental Accounting Standards Board (GASB) Statement No. 5, <u>Disclosure of</u> <u>Pension\_Information\_by\_Public\_Employee\_Retirement\_Systems\_and\_State\_and\_Local</u> <u>Governmental Employers</u>, requires disclosure of the actuarial present value of credited projected benefits for reports issued for fiscal years beginning after December 15, 1986. The Actuarial Present Value (APV) of credited projected benefits must take into account the long-term nature of the pension obligations on a going concern basis (rather than a termination basis). Benefits are projected to anticipated retirement, assuming future salary increases and future years of service credit. The liability or value of credited benefits is determined based on the ratio of years of service to date to the total years of service at projected retirement. This measure differs from the actuarial cost method used for funding the pension plan. The credited projected benefit method is not recommended for funding if level costs are desired.

The stated purpose of the GASB disclosure is to provide persons familiar with financial matters with information useful to: (a) assess the funding status on a going concern basis; (b) ascertain the progress made in accumulating assets to pay benefits when due; and (c) assess the extent to which employers are making contributions to the system at actuarially determined rates. The use of a single actuarial method--the credited projected benefit method, which may differ from that used for funding--is to facilitate comparison and understanding. However, the financial health of the pension plan should be measured against the actuarial method used for funding the plan. No split between vested and non-vested current employees is possible, due to the different vesting schedules of the defined benefit and defined contribution portions of the benefits.

See complete GASB disclosure exhibit in the rear of this report.

	1988	1989
Pension Benefit Obligation (PBO)		
APV of Credited Projected Benefits		
Accumulated contributions (with interest)	\$133,793,756	\$143,445,325
Payable to retirees and beneficiaries	\$229,024,543	\$241,519,125
Payable to vested and non-vested current employees	<u>\$178,811,596</u>	<u>\$183,786,037</u>
Total APV	\$541,629,895	\$568,750,487
Net Assets Available for Benefits (book value)	<u>\$584,899,234</u>	<u>\$646,313,443</u>
Excess Assets over APV of Credited Projected Benefits	\$43,269,339	\$77,562,956
Percentage Funded	107.99%	113.64%
Surplus APV as Percent of Payroll	18.82%	54.61%

A continuous review of the Fund's operating experience is needed, just as it has been needed in the past. The rates of salary increases, rates of retirement and investment earnings are of critical importance in cost estimates. Costs will need to be adjusted as these factors vary.

For example, for every \$1 increase in salary over the 6% increases assumed in the salary scale, the unfunded liability will be increased by about \$2.76. This will be in addition to the additional current annual service cost for every dollar in salary over the 6% salary scale assumed.

These additional costs will be reduced to some extent by the annual amount of investment income earned over the assumed 8.0% used for valuation purposes. The extent of the reduction will depend on the relative amounts of these two items.

Respectfully submitted,

Donald F. Campbell

Donald F. Campbell, F.C.A., M.A.A.A. Enrolled Actuary No. 90-1248

Double P Cay Will

Donald P. Campbell, F.S.A., M.C.A., M.A.A.A. Enrolled Actuary No. 90-1498

Katheune M. Schunding-

Katherine M. Schanding, F.S.A., M.A.A.A. Enrolled Actuary No. 90-3838

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#### Laborers' and Retirement Board Employees' Annuity and Benefit Fund of Chicago

**Actuarial Balance Sheet** 

as of

December 31, 1989

Assets and Liabilities

#### Exhibit A

#### LIABILITIES AND FUND BALANCES

#### Actuarial Balance Sheet as of December 31, 1989

Annuity Payment Fund Account (Based on 3% Comb. and 4% Amer. Exp. Tables) Employee Annuitants Spouse Annuitants Spouses' Annuities Fixed Total Annuity Payment Fund	\$66,376,500.12 24,337,519.37 <u>16,885,322.98</u>	\$107,599,342.47
Salary Deduction Fund Account Employees Spouses of Employees Total Salary Deduction Fund	\$111,388,281.59 24,666,617.26	\$136,054,898.85
City Contribution Fund Account Employees Spouses of Employees Supplemental Annuities Total City Contribution Fund	\$103,732,162.70 33,356,932.95 <u>4,158.10</u>	\$137,093,253.75
Other Reserves Supplementary Payment Reserve Annuity Payment Fund Account Total Other Reserves	\$73,351.03 (0.00)	\$73,351.03
Prior Service Fund Account (Based on 3% Comb. and 4% Amer. Exp. Tables) Employee Annuitants Spouse Annuitants Spouses' Annuities Fixed Salary DeductionsAnnuity Increase Estimated Excess Liability <sup>1</sup> Total Prior Service Fund Account	\$145,109,149.08 11,221,594.56 9,003,135.35 10,617,099.61 <u>77,122,715.30</u>	<u>\$253,073,693.90</u>
Total Liabilities		\$633,894,540.00
Obligations of Fund for Prior Service Liabilities <sup>1</sup>		<u>\$ 12,418,902.93</u>
Total Net Liabilities and Fund Balances		<u>\$646,313,442.93</u>

<sup>1</sup>The letter of transmittal attached hereto sets forth the manner in which this liability was determined.
Laborers' and Retirement Board Employees' Annuity and Benefit Fund of Chicago

Income - Year 1989

Income and Expenditures

Donald F. Campbell, Consulting Actuaries

## **EXPENDITURES FOR YEAR 1989**

#### **Total Income Forwarded**

\$92,732,554.85

BenefitsEmployees' AnnuitiesSpouses' AnnuitiesCompensation AnnuitiesChildrenOrdinary Disability (includes \$188,858.67 DIL)Duty Disability (includes \$564,343.81 DIL)Supplemental AnnuitiesAnnuitant Health InsuranceTotal BenefitsReciprocal Act Reimbursements	21,953,374.72 3,931,392.08 0.00 117,030.00 1,140,845.14 1,354,436.22 38,694.36 435,236.00 228,971,008.52 (4,825.22)		
Net Benefits Paid	( <u> </u>	\$28,966,183.30	
Expense of Administration Salaries Regular Employees Health Care Services Legal Medical Expense Auditing Actuarial Consulting Annuity Certification Employee Accounts and Data Processing Check Production Office Supplies and Equipment Depreciation Expense Printing and Stationery Postage Rent and Electricity Election Expense Telephone Conference and Association Expense Insurance Premiums Miscellaneous Total Expenses	311,222.26 51,848.84 25,295.66 21,288.00 16,000.00 21,309.42 102,097.61 64,321.81 64,549.95 9,755.98 9,075.05 15,227.80 23,132.00 104,410.76 796.00 1,876.27 12,144.20 1,575.94 7,972.89	\$ 863,900.44	
Refunds		\$1,832,628.26	
Litigation Expense		<u>\$ 88,826.89</u>	
Total Expenditures			<u>\$31,751,538.89</u>
Excess Income Over Expenditures			\$60,981,015.96
Net Change in Reserve for Loss of Collection and Taxes Receivable for Prior Years			\$ 433,193.35
Increase in Net Assets for Year			<u>\$61,414,209.31</u>

Laborers' and Retirement Board Employees' Annuity and Benefit Fund of Chicago

**Comparative Analysis - Year 1989** 

Assets and Liabilities

## **COMPARATIVE ANALYSIS**

## LIABILITIES AND FUND BALANCES

Liability Reserves	01/01/89	12/31/89	Increase (Decrease)
Annuity Payment Fund Employee Annuitants Employee Annuitants Fixed Spouse Annuitants Spouses' Annuities Fixed	\$ 63,445,005 11,875,563 22,762,623 20,040,324	\$ 66,376,500 0 24,337,519 <u>16,885,323</u>	\$ 2,931,495 (11,875,563) 1,574,896 ( <u>3,155,001</u> )
Total	\$118,123,515	\$ 107,599,342	(\$10,524,173)
Salary Deduction Fund Account Employees Spouses of Employees Total	\$ 95,223,597 _ <u>21,697,425</u> \$116,921,022	<pre>\$ 111,388,28224,666,617 \$ 136,054,899</pre>	\$16,164,685 <u>2,969,192</u> \$19,133,877
City Contribution Fund Account Employees Spouses of Employees Supplemental Annuities	\$ 88,690,408 29,348,891 <u>3,979</u>	\$ 103,732,163 33,356,933 4,158	\$15,041,755 4,008,042 <u>179</u>
Total	\$118,043,278	\$ 137,093,254	\$19,049,976
Other Reserves Supplemental Payment Reserve Annuity Fund Account	\$     72,046 5,994,667	\$     73,351 (0)	\$    1,305 ( <u>    5,994,667</u> )
Total	\$ 6,066,713	\$ 73,351	(\$ 5,993,362)
Prior Service Fund Account Employee Annuitants Spouse Annuitants Spouses' Annuities Fixed Salary DeductionsAnnuity Increase Estimated Excess Liability	\$138,745,381 10,911,761 5,263,480 9,916,474 <u>80,449,037</u>	\$ 145,109,149 11,221,595 9,003,135 10,617,100 	\$ 6,363,768 309,834 3,739,655 700,626 ( <u>3,326,322</u> )
Total	<u>\$245,286,133</u>	<u>\$ 253,073,694</u>	<u>\$ 7,787,561</u>
Total Liabilities	\$604,440,661	\$ 633,894,540	\$29,453,879
Unfunded Obligations	( <u>\$ 19,541,427</u> )	<u>\$ 12,418,903</u>	<u>\$31,960,330</u>
Total Net Liabilities	<u>\$584,899,234</u>	<u>\$ 646,313,443</u>	<u>\$61,414,209</u>

#### Exhibit D

## TAXES RECEIVABLE

## December 31, 1989

Year	Uncollected Taxes 12/31/89	Estimate for Loss 12/31/88	Additional Est. Setup 12/31/89	Total Est. for Loss 12/31/89	Taxes Collectible 12/31/89
City					
1985 1986 1987 1988 1989	\$ 230,661.92 544,255.40 602,690.78 752,922.33 <u>12,232,000.00</u> \$14,362,530.43	(\$226,510.00) (533,370.00) (341,220.00) (614,200.00) 	\$ 36,047.96 52,645.00 72,781.00 268,588.57 ( <u>611,600.00</u> ) (\$181,537.47)	(\$190,462.04) (480,725.00) (268,439.00) (345,611.43) ( <u>611,600.00</u> ) (\\$1,896,837.47)	\$ 40,199.88 63,530.40 334,251.78 407,310.90 <u>11,620,400.00</u> \$12,465,692.96
Park					
1985 1986 1987 1988 1989	\$ 432.36 0.00 0.00 <u>14,000.00</u> \$14,432.36	$(\$ 518.10) \\ 0.00 \\ 0.00 \\ ( 1,000.00) \\ 0.00 \\ (\$1,518.10)$	\$ 85.74 0.00 1,000.00 ( <u>700.00</u> ) \$ 385.74	(\$ 432.36) 0.00 0.00 ( <u>700.00</u> ) (\$1,132.36)	\$ 0.00 0.00 0.00 <u>13,300.00</u> \$13,300.00
Total Ci	ty and Park				
	<u>\$14,376,962.79</u>	( <u>\$1,716,818.10</u> )	( <u>\$181,151.73</u> )	( <u>\$1,897,969.83</u> )	<u>\$12,478,992.96</u>
	Replacement	nt Tax from State		1988 1989	\$ 0.00 <u>3,210,000.00</u> \$15,688,992.96

Note: The loss on the 1988 tax levy was 5%. Due to the 100% collection of the personal property replacement tax, the overall loss is 4%. The statutory requirement of \$15,456,000 is the sum of \$12,232,000 plus \$14,000 plus \$3,210,000.

## **MEMBERSHIP STATISTICS**

#### Year 1989

		Number at Beginning of Year	Increases	Decreases	Number at End of Year
A.	Changes in Active Participants				
	Male	4,396	201	334	4,263
	Female	329	_44	_44	329
	Total	<u>4,725</u>	<u>245</u>	<u>378</u>	<u>4,592</u>
B.	Changes in Inactive Participants				
	Male	1,440	234	243	1,431
	Female	106	27	40	<u>93</u>
	Total	<u>1,546</u>	<u>261</u>	<u>283</u>	<u>1,524</u>
C.	Changes in Annuitants and Beneficiaries				
	Employee Annuitants	2,405	126	147	2,384
	Spouse Annuitants	1,232	85	56	1,261
	Children's Annuities	79	14	13	80
	Ordinary Disability Benefits	90	100	111	79
	Duty Disability Benefits	172	530	564	138
	Reciprocal Employee	89	7	4	92
	Spouse	33	3	2	34
	Widow/Widower Compensation Annuities	1	0	0	<u>1</u>
	Total	<u>4,101</u>	<u>865</u>	<u>897</u>	<u>4,069</u>
D.	Ratio of Active Participants to Annuitants and Beneficiaries	<u>1.15</u>			<u>1.13</u>

#### Exhibit F

## SALARY AND AGE STATISTICS

## Year 1989

## Ages and Salaries as of December 31, 1989

## Male

Age	Number	Annual Salaries	Average Annual Salaries
Without DOB	0	\$ 0	\$ 0
Under 20	0	0	0
20 - 24	57	1,496,616	26,256
25 - 29	332	10,034,088	30,223
30 - 34	646	20,417,952	31,606
35 - 39	665	21,279,192	31,998
40 - 44	528	17,019,648	32,234
45 - 49	462	15,026,592	32,525
50 - 54	477	15,504,144	32,503
55 - 59	458	13,977,984	30,519
60 - 64	387	12,455,616	32,185
65 - 69 70 -	173	5,287,968	30,566
70 +	<u>_78</u>	2,553,744	32,740
Active	<u>4,263</u>	<u>\$135,053,544</u>	<u>\$31,680</u>
		Female	
Without DOB	0	\$0	\$0
Under 20	1	18,528	18,528
20 - 24	13	338,256	26,019
25 - 29	33	914,304	27,706
30 - 34	30	788,544	26,284
35 - 39	24	680,352	28,348
40 - 44	17	493,584	29,034
45 - 49	18	471,864	27,756
50 - 54	26	567,744	21,836
55 - 59	44	772,272	17,551
60 - 64	72	1,225,320	17,018
65 - 69	43	607,416	14,125
70 +	8	92,568	
Active	<u>329</u>	<u>\$6,970,752</u>	<u>\$21,188</u>
Total Male and Female	<u>4,592</u>	<u>\$142,024,296</u>	<u>\$30,929</u>

#### Exhibit F

## SALARY AND AGE STATISTICS

## Year 1989

## Ages at Entrance

	Male		Fem	ale
Age	Number	Annual Salaries	Number	Annual Salaries
Under 25	1,535	\$50,388,720	43	\$1,170,000
25 - 29	914	29,023,440	53	1,236,000
30 - 34	626	19,422,264	66	1,438,704
35 - 39	390	11,997,048	84	1,574,736
40 - 44	366	11,210,688	47	847,104
45 - 49	229	6,880,584	24	473,472
50 - 54	115	3,399,768	10	193,104
55 - 59	70	2,145,672	2	37,632
60 and over	18	585,360	0	0
Without record	0	0	0	0
Totals	<u>4,263</u>	<u>\$135,053,544</u>	<u>329</u>	<u>\$6,970,752</u>

Average Annual Salary	\$31,680	\$21,188
Average Attained Age	45.0	49.9
Average Service	14.8	15.4
Average Age at Entrance	30.2	34.5

## AGE AND SERVICE DISTRIBUTION

#### Year 1989

## Average Salaries by Age and Service Grouping (Showing the Number of <u>Active</u> Members and the Average Salaries of Males and Females Combined)

					Years of S	Service				
Age	Under 1	1 - 4	5 - 9	10-14	15-19	20-24	25-29	30-34	35+	Total
00-20	1 \$18,528									1 \$18,528
20-24	19 \$23,444	42 \$25,801								70 \$26,212
25-29			188 \$31,416							365 \$29,996
30-34			229 \$31,800							676 \$31,371
35-39			169 \$31,614			14 \$34,755				689 \$31,872
40-44			116 \$31,419							545 \$32,134
45-49			84 \$31,098				91 \$34,812	6 \$36,644		480 \$32,288
50-54	1 \$52,680		46 \$28,636					39 \$34,593		
55-59	3 \$26,984	20 \$24,217	51 \$30,309	81 \$29,628	80 \$29,299	78 \$28,638	89 \$27,974	63 \$30,490	37 \$33,815	502 \$29,383
60-64		4 \$29,436	27 \$29,524	62 \$30,526	67 \$29,797	81 \$27,910	80 \$25,384	50 \$32,149	88 \$33,842	
65-69	1 \$29,856	2 \$20,772	17 \$31,677	28 \$30,443	32 \$28,314	54 \$26,271	35 \$22,552	16 \$24,906	31 \$29,695	
70+			2 \$34,728	8 \$32,697	22 \$32,448	14 \$31,128	13 \$26,487	13 \$30,362	14 \$30,471	86 \$30,771
W/O	DOB									
Numl Salar Age Servio	y \$25,482	495 \$27,343	938 \$31,303	1,131 \$31,731	674 \$32,268	510 \$30,754	417 \$30,085	187 \$31,500	173 \$32,733	4,592 \$30,929 45.3 14.9

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## AGE AND SERVICE DISTRIBUTION

#### Year 1989

# Age and Service Grouping (Showing the Number of <u>Inactive</u> Members, of Males and Females Combined)

Age	Under 1	1 - 4	5 - 9	y 10-14	Years of Se 15-19	ervice 20-24	25-29	30-34	35+	Total
00-20	2	2								4
20-24	15	26								41
25-29	224	67	18	4						313
30-34	238	85	20	15	1					359
35-39	145	66	22	17	7					257
40-44	75	41	8	9	1	1				135
45-49	38	25	10	8	1	3	1			86
50-54	32	21	16	7	7	2	2	2		89
55-59	29	18	6	1	4	7	2	4	1	72
60-64	26	19	8	4	6	4	6	4	2	79
65-69	9	15	6	7	4	1	3		1	46
70+	8	6	5	8	3	4	3	2	1	40
W/O	DOB 1	2								3
Numb Age Servio		393	119	80	34	22	17	12	5	1,524 39.3 3.3

.

## ANNUITANTS CLASSIFIED BY AGE AS OF DECEMBER 31, 1989

#### **Retirement Annuities**

Age	Male Number	Annual Payments	Average Annual Payments	Female Number	Annual Payments	Average Annual Payments
20 - 24						
25 - 29						
30 - 34						
35 - 39	3	\$ 9,000.00	\$ 3,000.00			
40 - 44	1	3,000.00	3,000.00			
45 - 49	1	3,000.00	3,000.00			
50 - 54						
55 - 59	39	568,905.60	14,587.32	5	\$ 48,896.04	\$9,779.21
60 - 64	242	3,835,284.72	15,848.28	24	141,905.04	5,912.71
65 - 69	434	5,736,723.96	13,218.26	128	738,067.20	5,766.15
70 - 74	425	4,317,685.80	10,159.26	214	1,082,441.76	5,058.14
75 - 79	303	2,719,142.16	8,974.07	199	847,730.40	4,259.95
80 - 84	151	1,090,104.36	7,219.23	134	477,873.24	3,566.22
85 - 89	52	281,679.12	5,416.91	61	223,774.56	3,668.44
90 - 94	19	107,067.36	5,635.12	27	89,352.48	3,309.35
95 - 99	5	23,475.60	4,695.12	8	24,745.80	3,093.23
100-105				_1	3,076.08	3,076.08
Totals	<u>1,675</u>	<u>\$18,695,068.68</u>	<u>\$11,161.24</u>	<u>801</u>	<u>\$3,677,862.60</u>	<u>\$4,591.59</u>
Average Age			<u>71</u>			<u>76</u>
		Spouse Annuiti	es (Not Includin	g Compensa	tion)	
20 - 24						
25 - 29				1	\$2,400.00	\$2,400.00
30 - 34				5	10,800.00	2,160.00
35 - 39				2	5,904.00	2,952.00
40 - 44				13		
45 - 49				15	34,438.32	2,649.10
50 - 54				13 24	34,438.32 70,175.88	2,649.10 2,924.00
					70,175.88	2,924.00
55 - 59	1	\$ 2,400.00	\$2,400.00	24		2,924.00 3,532.05
55 - 59 60 - 64	1 1		\$2,400.00 2,400.00	24 47	70,175.88 166,006.56	2,924.00
		\$ 2,400.00 2,400.00 2,400.00		24 47 75	70,175.88 166,006.56 259,225.68	2,924.00 3,532.05 3,456.34
60 - 64	1	2,400.00	2,400.00	24 47 75 142	70,175.88 166,006.56 259,225.68 496,825.44	2,924.00 3,532.05 3,456.34 3,498.77
60 - 64 65 - 69	1 1	2,400.00 2,400.00	2,400.00 2,400.00	24 47 75 142 227	70,175.88 166,006.56 259,225.68 496,825.44 787,741.92 880,852.80 622,479.84	2,924.00 3,532.05 3,456.34 3,498.77 3,470.23 3,134.71 2,868.57
60 - 64 65 - 69 70 - 74 75 - 79 80 - 84	1 1 5	2,400.00 2,400.00 12,000.00	2,400.00 2,400.00 2,400.00	24 47 75 142 227 281 217 148	70,175.88 166,006.56 259,225.68 496,825.44 787,741.92 880,852.80 622,479.84 423,680.64	2,924.00 3,532.05 3,456.34 3,498.77 3,470.23 3,134.71 2,868.57 2,862.71
60 - 64 65 - 69 70 - 74 75 - 79 80 - 84 85 - 89	1 1 5	2,400.00 2,400.00 12,000.00	2,400.00 2,400.00 2,400.00	24 47 75 142 227 281 217	$\begin{array}{c} 70,175.88\\ 166,006.56\\ 259,225.68\\ 496,825.44\\ 787,741.92\\ 880,852.80\\ 622,479.84\\ 423,680.64\\ 170,276.52\end{array}$	2,924.00 3,532.05 3,456.34 3,498.77 3,470.23 3,134.71 2,868.57
60 - 64 65 - 69 70 - 74 75 - 79 80 - 84 85 - 89 90 - 94	1 1 5	2,400.00 2,400.00 12,000.00	2,400.00 2,400.00 2,400.00	24 47 75 142 227 281 217 148	70,175.88 166,006.56 259,225.68 496,825.44 787,741.92 880,852.80 622,479.84 423,680.64	2,924.00 3,532.05 3,456.34 3,498.77 3,470.23 3,134.71 2,868.57 2,862.71
60 - 64 65 - 69 70 - 74 75 - 79 80 - 84 85 - 89 90 - 94 95 - 99	1 1 5	2,400.00 2,400.00 12,000.00	2,400.00 2,400.00 2,400.00	24 47 75 142 227 281 217 148 69 25 1	$\begin{array}{c} 70,175.88\\ 166,006.56\\ 259,225.68\\ 496,825.44\\ 787,741.92\\ 880,852.80\\ 622,479.84\\ 423,680.64\\ 170,276.52\end{array}$	2,924.00 3,532.05 3,456.34 3,498.77 3,470.23 3,134.71 2,868.57 2,862.71 2,467.78
60 - 64 65 - 69 70 - 74 75 - 79 80 - 84 85 - 89 90 - 94	1 1 5	2,400.00 2,400.00 12,000.00	2,400.00 2,400.00 2,400.00	24 47 75 142 227 281 217 148 69 25	$\begin{array}{c} 70,175.88\\ 166,006.56\\ 259,225.68\\ 496,825.44\\ 787,741.92\\ 880,852.80\\ 622,479.84\\ 423,680.64\\ 170,276.52\\ 61,557.48 \end{array}$	2,924.00 3,532.05 3,456.34 3,498.77 3,470.23 3,134.71 2,868.57 2,862.71 2,467.78 2,462.30

Average Age

Donald F. Campbell, Consulting Actuaries

Laborers' 1989 Actuarial Statement

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## HEALTH INSURANCE SUPPLEMENT CLASSIFIED BY AGE AS OF DECEMBER 31, 1989

Retirement Annuitants											
Age	Single Coverage	Family Coverage	Total Participants	Total Non-Part.	Total Annuitants	% Part/ Annuitants					
Less 30	0	0	0	0	0	N/A					
30 - 39	0	0	0	1	1	N/A					
40 - 49	2	0	2	2	4	50.00%					
50 - 59	6	13	19	12	31	61.29					
60 - 69	199	316	515	177	692	74.42					
70 - 79	437	369	806	415	1,221	66.01					
80 - 89	164	78	242	201	443	54.63					
Over 90	_25	3	28	56	84	<u>33.33</u>					
Total	833	779	1,612	864	2,476	65.11%					
	Spouse Annuitants <sup>1</sup>										
Less 30	0	0	0	0	0	N/A					
30 - 39	0	5	5	3	8	62.50%					
40 - 49	3	7	10	21	31	32.26					
50 - 59	43	9	52	57	109	48.18					
60 - 69	156	8	164	169	333	49.25					
70 - 79	197	6	203	329	532	38.16					
80 - 89	71	0	71	173	244	29.10					
Over 90	4	_0	4	_34	38	<u>10.53</u>					
Total	474	35	509	786	1,295	39.31%					

<sup>1</sup>Does not include widow compensation.

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## **NEW ANNUITIES GRANTED DURING 1989**

	Male Annuitants	Female Annuitants	Widows/ Widowers of Deceased Employees	Widows/ Widowers of Deceased Annuitants
Number Retired	98	34 <sup>1</sup>	23	65
Average Age Attained	64.1	66.5	56.4	70.3
Average Length of Service	26.9	25.8	17.7	N/A
Average Annual Salary (4 out of 10)	\$26,508	\$11,796	N/A	N/A
Average Annual Final Salary	\$29,568	\$12,720	\$31,152	N/A
Total Annual Annuity	\$1,447,069	\$213,713	\$113,771	\$253,588
Average Annual Annuity	\$14,766	\$6,286	\$4,947	\$3,901
Total Liability (8.0% UP-1984)	\$16,060,845	\$2,446,145	\$1,227,783	\$2,139,099
Average Liability	\$163,886	\$71,945	\$53,382	\$32,909
Total Cost for Income Tax Purposes	\$1,708,485	\$252,138	\$292,215	N/A
Average Cost	\$17,434	\$7,416	\$12,705	N/A
Expected Future Lifetime (years)	15.35	17.42	25.20	14.69
Payback Period (years)	1.18	1.18	2.57	N/A
Replacement Ratio	49.9%	49.4%	N/A	N/A
Liability/Salary	5.54	5.66	N/A	N/A

<sup>1</sup>Of 35 female retirees, 34 were still receiving annuity as of December 31, 1989.

## **RETIREES AND BENEFICIARIES BY TYPE OF BENEFIT**

Last	10	Years	
------	----	-------	--

Year	Employee Annuitants	Spouse Annuitants <sup>1</sup>	Child Annuities	Ordinary Disability	Duty Disability	Widow Comp.	Reciprocal Employees	Reciprocal Widows
1980	2,337	1,155	139	152	25	2	42	6
1981	2,420	1,154	137	136	26	2	49	11
1982	2,419	1,175	109	113	25	2	56	11
1983	2,363	1,198	112	110	57	3	56	13
1984	2,386	1,213	96	111	77	2	83	15
1985	2,343	1,191	104	108	110	2	76	19
1986	2,406	1,205	93	119	155	2	81	21
1987	2,416	1,209	84	82	152	2	82	31
1988	2,405	1,232	79	90	172	1	89	33
1989	2,384	1,261	80	79	138	1	92	34

<sup>1</sup>Includes reversionary

.

## AVERAGE EMPLOYEE RETIREMENT BENEFITS PAYABLE

Year Ended	Average Annual Benefit	Average Current Age of Retirees	Average Age at Retirement Current Year	Average Years of Service at Retirement Current Year
1979	\$3,581.85	71.8	65.1	23.1
1980	3,765.74	71.8	65.4	21.4
1981	4,111.60	71.0	64.9	22.3
1982	4,433.95	72.1	64.6	23.8
1983	4,774.89	72.1	65.3	24.0
1984	5,315.46	72.7	65.9	25.3
1985	5,867.92	72.4	64.8	25.5
1986	6,730.00	72.4	64.9	27.0
1987	7,934.57	72.3	65.0	28.0
1988	8,516.46	72.6	65.0	27.5
1989	9,035.92	72.6	64.7	26.4

#### **HISTORY 1965 TO 1989**

## History of Average Annual Salaries - Entire Fund

Year End	Members in Service <sup>1</sup>	Percent Increase	Average Salary	Percent Increase	Salary	Percent Increase	Actuarial Salary Assumption	CPI Chicago
1965	7,936	0.9%	\$45,872,832	3.2%	\$5,780	2.3%	1.00%	1.4%
1966	7,995	0.7	47,598,552	3.8	5,954	3.0	1.00	2.9
1967	8,102	1.3	52,268,304	9.8	6,451	8.3	1.75	2.7
1968	7,891	(2.6)	56,165,136	7.5	7,118	10.3	1.75	4.3
1969	7,777	(1.4)	60,523,296	7.8	7,782	9.3	1.75	5.4
1970	7,220	(7.2)	62,916,768	4.0	8,714	12.0	1.75	5.6
1971	6,864	(4.9)	66,142,320	5.1	9,636	10.6	3.50	3.9
1972	6,971	1.6	69,950,692	5.8	10,035	4.1	3.50	2.9
1973	6,752	(3.1)	73,108,848	4.5	10,828	7.9	3.50	6.2
1974	6,638	(1.7)	78,526,728	7.4	11,830	9.3	5.00	10.7
1975	7,032	5.9	89,276,280	13.7	12,696	7.3	5.00	7.9
1976	6,811	(3.1)	90,487,008	1.4	13,285	4.6	5.00	4.8
1977	6,752	(0.9)	98,029,296	8.3	14,519	9.3	5.00	6.4
1978	6,613	(2.1)	103,399,152	5.5	15,636	7.7	5.00	8.6
1979	6,175	(6.6)	105,825,264	2.3	17,138	9.6	5.00	12.5
1980	5,847	(5.3)	108,854,496	2.9	18,617	8.6	5.00	14.4
1981	5,765	(1.4)	118,054,512	8.5	20,478	10.0	5.00	9.6
1982	5,970	3.6	134,293,920	13.8	22,495	9.8	6.00	6.8
1983	5,424	(9.1)	131,355,840	(2.2)	24,218	7.7	6.00	4.0
1984	5,341	(1.5)	131,327,856	(0.0)	24,589	1.5	6.00	3.8
1985	5,138	(3.8)	125,594,688 <sup>3</sup>		24,444	(0.6)	7.00	3.8
1986	4,844	(5.7)	128,601,816	2.4	26,549	8.6	6.00	2.0
1987	4,873	0.6	135,453,096	5.3	27,797	4.7	6.00	4.1
1988	4,725	(3.0)	132,685,608	(2.0)	28,082	1.0	6.00	3.9
1989	4,592	(2.8)	142,024,296	7.0	30,929	$10.0^{2}$	6.00	5.1
Average (Decreas Last 5 Y	e) for the	(2.9%)		1.7%		4.7%		3.8%
Average	Last	(2.8%)		3.1%		6.1%		5.2%
10 Years	,	(2.0%)		3.1%		0.1%		5.2%

<sup>1</sup>Includes those members who were on disability.

<sup>2</sup>Average annual increase in salary 1965-1989, about 7.2% compounded. The average increase in the Chicago CPI for the same period is about 5.9%.

<sup>3</sup>Total salaries include the 7% Board of Education "pick up" for the first time due to a change in the law.

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## HISTORY OF TOTAL ANNUITIES

#### **Employee Annuitants (Male and Female)**

Year End	Number of Annuitants	<b>Total Annuities</b>	Average Annuities
1969	1,593	\$2,495,396	\$1,566
1970	1,651	2,779,061	1,683
1971	1,675	2,927,594	1,748
1972	1,724	3,373,308	1,957
1973	1,777	3,781,854	2,128
1974	1,831	4,331,609	2,366
1975	1,907	4,887,747	2,563
1976	2,009	5,633,971	2,804
1977	2,087	6,287,310	3,013
1978	2,188	7,162,866	3,274
1979	2,227	7,976,776	3,582
1980	2,379	8,958,700	3,766
1981	2,420	9,950,080	4,112
1982	2,419	10,725,716	4,434
1983	2,419	11,550,456	4,775
1984	2,469	13,123,860	5,315
1985	2,419	14,194,488	5,868
1986	2,487	16,737,498	6,730
1987	2,498	19,820,563	7,934
1988	2,494	21,240,063	8,516
1989	2,476	22,372,931	9,036

# Spouse Annuitants (Not Including Compensation)

1969	909	\$640,079	\$704
1970	928	673,352	726
1971	921	711,618	773
1972	932	775,469	832
1973	967	860,410	890
1974	997	959,632	963
1975	1,022	1,053,816	1,031
1976	1,041	1,142,064	1,097
1977	1,059	1,267,194	1,197
1978	1,075	1,381,263	1,285
1979	1,111	1,523,370	1,371
1980	1,154	1,689,076	1,464
1981	1,153	1,768,868	1,534
1982	1,174	1,927,743	1,642
1983	1,211	2,128,737	1,758
1984	1,228	2,304,994	1,877
1985	1,210	2,462,519	2,035
1986	1,226	2,610,422	2,035
1987	1,240	3,654,798	
1988	•		2,947
1989	1,265	3,820,665	3,020
1203	1,295	4,039,290	3,119

				Book				
	Investr	nent Yield	on Total Ass	ets	<b>Investment Yield on Invested Assets</b>			
	Exclud		Inclu		Exclud		Includ	
Year	Gains/L	osses	Gains/	Losses	Gains/I	losses	Gains/L	losses
1971	4.75%		3.95%		4,99%		4.14%	
1972	5.47		4.79		5,70		5.00	
1973	5.76		3.60		6.03		3.77	
1974	6.58		3.55		6.98		3.76	
1975	7.25		6.17		7.73		6.58	
1976	7.23		6.98		7.65		7.39	
1977	7.01		7.00		7.35		7.35	
1978	6.61		5.34		6.97		5.62	
1979	7.38		6.61		7.82		7.00	
1980	7.69		5.66		8.20		6.03	
1981	8.46		3.99		9.11		4.29	
1982	9.88		7.64		10.47		8.09	
1983	9.37	9.30% <sup>1</sup>	11.14	$11.07\%^{1}$	9.79	9.72% <sup>1</sup>	11.64	11.57%
1984	9.67	9.58 <sup>1</sup>	8.88	8.79 <sup>1</sup>	10.12	10.03 <sup>1</sup>	9.30	9.21 <sup>1</sup>
1985	8.89	8.72 <sup>1</sup>	16.34	$16.17^{1}$	9.27	9.10 <sup>1</sup>	17.07	16.89 <sup>1</sup>
1986	7.44	7.14 <sup>1</sup>	16.06	15.74 <sup>1</sup>	7.72	7.41 <sup>1</sup>	16.69	16.34 <sup>1</sup>
1987	6.50	$6.20^{1}$	11.90	$11.59^{1}$	6.71	6.40 <sup>1</sup>	12.29	$11.96^{1}$
1988	6.81	6.55 <sup>1</sup>	7.78	$7.52^{1}$	7.00	6.73 <sup>1</sup>	7.99	$7.72^{1}$
1989	<u>7.06</u>	<u>6.71</u> <sup>1</sup>	<u>11.50</u>	$11.14^{1}$	<u>7.21</u>	<u>6.85</u> 1	<u>11.75</u>	$11.38^{1}$
5-Year A	vg.7.34%	7.06%	12.72%	12.43%	7.58%	7.30%	13.16%	12.86%
							et Value <sup>1</sup>	
			lverage	30	3-Month	Investment		stment
	Actua		surance	Year	Treasury	Yield on		ld on
Year	Assum	ption C	ompany	Treasury	Bills	<b>Total Assets</b>	Investe	d Assets
1971	4.5	0%	5.44%	N/A	4.348%			
1972	4.5	0	5.56	N/A	4.071			
1973	5.0	Ю	5.88	N/A	7.041			
1974	5.0		6.25	Ň/A	7.886			
1975	5.0	ю	6.36	N/A	5.838			
1976	6.0		6.55	N/A	4.989			

#### **HISTORY OF INVESTMENT YIELDS**

					Marke	et Value <sup>1</sup>
Year	Actuarial Assumption	Average Insurance Company	30 Year Treasury	3-Month Treasury Bills	Investment Yield on Total Assets	Investment Yield on Invested Assets
1971	4.50%	5.44%	N/A	4.348%		
1972	4.50	5.56	N/A	4.071		
1973	5.00	5.88	N/A	7.041		
1974	5.00	6.25	N/A	7.886		
1975	5.00	6.36	N/A	5.838		
1976	6.00	6.55	N/A	4.989		
1977	6.00	6.89	N/A	5.265		
1978	6.00	7.31	8.49%	7.221		
1979	6.00	7.73	9.29	10.041		
1980	6.00	8.02	11.30	11.506		
1981	6.00	8.57	13.44	14.029		
1982	6.75	8.91	12.76	10.686		
1983	6.75	8.96	11.18	8.520		
1984	6.75	9.45	12.39	9.570	7.35% <sup>1</sup>	$7.68\%^{1}$
1985	7.00	9.63	10.79	7.470	22.41 <sup>1</sup>	23.37 <sup>1</sup>
1986	7.50	9.35	7.80	5.970	12.33 <sup>1</sup>	$12.77^{1}$
1987	7.50	9.10	8.59	5.820	3.67 <sup>1</sup>	3.78 <sup>1</sup>
1988	7.50	9.03	8.96	6.690	10.84 <sup>1</sup>	11.09 <sup>1</sup>
1989	8.00	<u>N/A</u>	<u>8.45</u>	<u>8.120</u>	$16.95^{1}$	<u>17.32</u> <sup>1</sup>
5-Year Avg	ζ.	9.31%	8.92%	6.814%	13.24%	13.67%

<sup>1</sup>Investment income is net of investment expense.

Notes: Yield = Investment Income/.5(Beginning Assets + End Assets - Investment Income) Bonds valued at amortized value, stocks at cost. Market values considered only in Market Value section.

#### LEGISLATIVE CHANGES

#### 1984 Session

- Direct deposit.
- Illinois Public Employees' Pension Laws Commission abolished.

#### 1985 Session

- HB 398 1.80, 2.00, 2.20, 2.40% benefit accrual rate for those born before January 1, 1936 and retiring after August 16, 1985.
  - Reduction in age discount factor (employee and widow) from 0.5% to 0.25% for employees born before January 1, 1936 and retiring or dying in service after August 16, 1985.
  - Health insurance supplement up to \$25 per month if the employee is age 65 or older with at least 15 years of service (for each employee annuitant in receipt of annuity and for each employee who retires on annuity in the future).
  - Disability provisions extended to age 70 in certain cases.
  - Unisex money purchase factors for widows/widowers.
  - Membership provisions extended to age 70.
  - Board of Education employee contribution "pick up" included in the definition of salary for contribution and benefit purposes.

#### 1986 Session

- HB 2630 Cap removed on spouse maximum annuity.
  - Automatic post-retirement increase to begin on first anniversary of retirement following attainment at age 60.

#### 1987 Session

- HB 2715 1.80, 2.00, 2.20, 2.40% benefit accrual rate for those born on or after January 1, 1936 and retiring on or after January 1, 1988.
  - Reduction in age discount factor (employee and widow) from .5% to .25% for employees born on or after January 1, 1936 and retiring or dying in service on or after January 1, 1988. No discount for employee age less than 60 if employee has at least 35 years of service.
  - Minimum employee annuity of \$250 and minimum spouse annuity of \$200 under certain conditions.
  - Change amount of children's benefits to \$120 or \$150 effective January 1, 1988.
  - Provide for certain "Good Government" initiatives.
  - Remove chronic alcoholism restriction for ordinary disability.

#### 1988 Session

- No changes.

#### 1989 Session

- SB 95 Signed August 23, 1989. Changed the amount of fund paid health insurance "supplement" from January 1, 1988 until December 31, 1992 to \$65 per month for each annuitant not qualified to receive Medicare benefits (and \$35 if qualified) and from January 1, 1993 until December 31, 1997 the amounts are \$75 and \$45, respectively. Widows will now be supplemented and employee annuitants will no longer be required to meet the age 65 and 15 years of service requirements. The City will be required to pay 50% of the aggregated cost of health care claims for the retired group under all health care plans offered by the City. A procedure was established for the City to determine, with the help of an independent actuary, the aggregate cost of claims and premiums for each calendar year from 1989 through 1997 for the retired group.
- HB 332 Signed August 23, 1989. Eliminated age related discriminatory provisions as required by Federal law or regulation. Provided for Age Discrimination changes effective January 1, 1988 to eliminate age 65 requirements for marriage in service and children's benefits, provided contributions after age 65 for spouse benefits, provided employee accumulation annuities be computed after age 70, provided employee and spouse accumulation annuities not be "fixed" at age 65, provided no age 70 restriction on disability benefits, provided for active members over age 65 that their accounts be "unfixed" and accumulate interest until the date of withdrawal, and provided that there be no age 70 membership limitation and removed the permitted "no spouse" refund at age 65.
  - Eliminated the \$300, \$400 or \$500 maximum spouse annuity limitation for spouses of employees who retired before January 23, 1987 but die after January 23, 1987.
  - Allow for local labor officials on a leave of absence from the Fund to contribute for their current service as a local labor official.

## HISTORY OF RECOMMENDED EMPLOYER MULTIPLES

Year of Report	Statutory Multiple	Normal Cost Plus Interest	Normal Cost Plus 40 Year Amortization	Normal Cost Plus 40 Year % of Salary Amortization
1974	1.235	1.48		
1975	1.280	1.33		
1976ª	1.325	1.54	1.62	1.24
1977	1.370	1.53	1.62	1.24
1978ª	1.370	1.69	1.78	1.38
1979	1.370	1.62	1.71	1.34
1980	1.370	1.96	2.04	1.67
1981	1.370	1.59	1.67	1.30
1982ª	1.370	1.34	1.40	1.03
1983 <sup>b</sup>	1.370	1.54	1.60	1.21
1984	1.370	1.58	1.63	1.30
1985 <sup>ª, b</sup>	1.370	1.60	1.64	1.33
1986 <sup>a, b</sup>	1.370	0.99	1.00	0.94
1987 <sup>а, ь</sup>	1.370	1.13	1.15	1.03
1988°	1.370	1.03	1.04	0.98
1989 <sup>ª, b</sup>	1.370	0.56	0.56	0.56

<sup>a</sup>Change in actuarial assumptions <sup>b</sup>Change in benefits

#### HISTORY OF FINANCIAL INFORMATION

#### History of Change in Unfunded Liability

Year	Salary Scale	Investment	Contribution	Amendments
1976	\$2,054,198	(\$3,060,916)	\$1,344,697	\$ 0
1977	6,438,469	(1,713,276)	25,079	0
1978	999,265	1,250,567	(86,848)	0
1979	9,603,360	(1,250,488)	(104,786)	0
1980	8,111,444	758,925	178,166	0
1981	12,205,164	4,852,598	2,104,112	0
1982	13,090,805	(4,232,954)	(249,949)	0
1983	4,185,219	(12,540,094)	(805,111)	28,057,130
1984	(13,893,652)	(6,915,903)	(708,947)	0
1985	(20,313,749)	(33,560,632)	(404,023)	17,491,073
1986	5,125,287	(38,156,363)	(1,490,690)	15,144,096
1987	(4,287,957)	(21,518,841)	(6,348,853)	29,787,872
1988	(17,739,334)	(1,525,244)	(4,261,332)	0
1989	15,101,648	(23,284,941)	(6,570,202)	20,350,471
Totals	<u>\$20,680,167</u>	( <u>\$140,897,562</u> )	( <u>\$17,378,687</u> )	<u>\$110,830,642</u>
	Year	Assumptions	Miscellaneous	Total
	1976	(\$5,885,819)	(\$729,227)	(\$6,227,067)
	1977	Ú Ó	1,742,226	6,492,498
	1978	4,719,124	926,635	7,808,743
	1979	0	(4,182,778)	4,065,308
	1980	0	(4,483,742)	4,564,793
	1981	0	(12,538,029)	6,623,845
	1982	(10,209,470)	(2,498,897)	(4,100,465)
	1983	0	(5,235,581)	13,661,563
	1984	0	3,858,364	(17,660,138)
	1985	806,348	5,624,931	(30,356,052)
	1986	(50,944,726)	13,613,438	(56,708,958)
	1987	12,677,781	7,445,130	17,755,132
	1988	3,593,768	3,136,595	(16,795,547)
	1989 -	( <u>39,817,812</u> )	<u>2,260,506</u>	(31,960,330)
	Totals	( <u>\$85,060,806</u> )	<u>\$8,939,571</u>	( <u>\$102,886,675</u> )

Over the last 14 years, the unfunded liability has decreased by \$102.9 million. The biggest component of increase has been benefit changes which account for \$110.8 million; followed by salary increase over the assumed amount of \$20.7 million; followed by miscellaneous changes due to actuarial experience (retirement, disability, death and withdrawal) of \$8.9 million. The components which reduced the unfunded liability over the same period were investment earnings in excess of the assumed amount of \$140.9 million changes in actuarial assumptions of \$85.1 million and more than adequate contributions (on the interest only basis) of \$17.3 million.

Investment earnings in excess of the assumed amount have been the general trend. Salary increases generally have exceeded the assumed increases, but not always, and have been offset by the investment gains. Experience for retirements and withdrawals tends to fluctuate, but tracks fairly well the assumed rates. Mortality experience has been somewhat heavier than expected, so the assumed mortality tables can be considered as having a margin for future mortality improvement.

#### HISTORY OF FINANCIAL INFORMATION

#### Accrued and Unfunded Liabilities

Year End	Accrued Liability	Assets at Book Value	Funded Ratio	Unfunded Accrued Liability (Surplus)	Payroll	Unfunded Accrued % Payroll (Surplus)
1971ª	\$158,815,569	\$110,423,040	69.5%	\$48,392,529	\$66,142,320	73%
1972	172,160,657	120,072,655	69.7	52,088,002	69,950,692	74
1973	197,782,050	128,624,035	65.0	69,158,015	73,108,848	95
1974	215,636,093	137,709,821	63.9	77,926,272	78,526,728	99
1975	242,216,859	151,749,085	62.7	90,467,774	89,276,280	101
1976ª	252,410,689	168,219,982	66.6	84,190,707	90,487,008	93
1977	277,111,671	186,428,465	67.3	90,683,205	98,029,296	93
1978ª	301,135,468	202,643,520	67.3	98,491,948	103,399,152	95
1979	323,368,034	220,810,778	68.3	102,557,256	105,825,264	97
1980	345,364,820	238,242,772	69.0	107,122,048	108,854,496	98
1981	367,980,498	254,234,605	69.1	113,745,893	118,054,512	96
1982ª	391,353,993	281,708,565	72.0	109,645,428	134,293,920	82
1983 <sup>ь</sup>	444,711,069	321,404,078	72.3	123,306,991	131,355,840	94
1984	462,455,964	356,809,111	77.2	105,646,853	131,327,856	80
1985 <sup>a, b</sup>	495,844,974	420,554,173	84.8	75,290,801	125,594,688	60
1986 <sup>a, b</sup>	507,984,848	489,403,006	96.3	18,581,842	128,601,816	14
1987 <sup>а, в</sup>	583,284,026	546,947,052	93.8	36,336,974	135,453,096	27
1988°	604,440,661	584,899,234	96.8	19,541,427	132,685,608	15
1989 <sup>a,b</sup>	633,894,540	646,313,443	101.9	(12,418,903)	142,024,296	(9)

Solvency (Termination) Test

Year End	Retired Liability	Active Member Salary Deductions	Total Termination Liability	Assets at Book Value	Termination Cost (Excess)	Quick Ratio Assets to Termination Liability
1975	\$56,403,573	\$63,162,106	\$119,565,679	\$151,749,085	\$(32,183,406)	127%
1976ª	61,271,047	68,189,205	129,460,252	168,219,982	(38,759,730)	130
1977	67,977,467	73,608,310	141,585,777	186,428,466	(44,842,689)	132
1978°	77,603,101	78,072,062	155,675,163	202,643,520	(46,968,357)	130
1979	86,918,802	83,057,007	169,975,809	220,810,778	(50,834,969)	130
1980	97,598,923	85,989,360	183,588,283	238,242,772	(54,654,489)	130
1981	107,291,048	88,378,748	195,669,796	254,234,605	(58,564,809)	130
1982ª	113,743,284	94,516,563	208,259,847	281,708,565	(73,448,718)	135
1983 <sup>ь</sup>	128,901,825	106,730,627	235,632,452	321,404,078	(85,771,626)	136
1984	142,713,639	111,888,474	254,602,113	356,809,111	(102,206,998)	140
1985 <sup>≞, в</sup>	158,514,452	117,882,073	276,396,525	420,554,173	(144,157,648)	152
1986 <sup>ª, b</sup>	179,881,434	122,432,246	302,314,080	489,403,006	(187,088,926)	162
1987 <sup>а, в</sup>	215,483,599	126,554,299	342,037,898	546,947,052	(204,909,154)	160
1988ª	229,024,543	133,793,756	362,818,299	584,899,234	(222,080,935)	161
1989 <sup>ª, b</sup>	241,519,125	143,445,325	384,964,450	646,313,443	(261,348,993)	168

<sup>a</sup>Change in valuation assumptions <sup>b</sup>Change in benefits

Quick ratio is defined as assets divided by the termination liability.

#### **Plan Description**

Any employee of the City of Chicago or the Board of Education of the City employed under the provisions of the municipal personnel ordinance as labor service or any person employed by a retirement board of any annuity and benefit fund in the city is covered by the Laborers' and Retirement Board Employees' Annuity and Benefit Fund of Chicago (Laborers' Plan) which is a defined benefit single employer pension plan with a defined contribution minimum. Although this is a single employer plan, the defined benefits as well as the employer and employee contribution levels are mandated in Illinois State Statutes (Chapter 108 1/2, Pensions, Article 11) and may be amended only by the Illinois legislature. The City of Chicago accounts for the plan as a pension trust fund. The City of Chicago payroll for employees covered by the Laborers' Plan for the year ended December 31, 1989 was \$142,024,296. At December 31, 1989 the Laborers' Plan membership consisted of:

Retirees and beneficiaries currently receiving benefits (includes disabilities)	4,069
Terminated employees entitled to benefits or a refund of contributions but not yet receiving them	1,524
Current employees	4,592

The Laborers' Fund provides retirement benefits as well as death and disability benefits. Employees age 55 or more with at least 10 years of service are entitled to receive a money purchase annuity with partial city contributions if under age 60 with less than 20 years of service. Employees age 55 or more with at least 20 years of service are entitled to receive a minimum formula annuity of 1.8% per year for the first 10 years of service, 2.0% per year for the next 10 years, 2.2% per year for the next 10 years, and 2.4% per year for each year of service over 30, times the final average salary (highest average annual salary for any 4 consecutive years within the last 10 years of service immediately preceding the date of retirement). If the employee retires prior to age 60, the annuity shall be reduced by 1/4 of 1% for each month the employee is under age 60. The original annuity shall not exceed 75% of the highest average annual salary. The monthly annuity is increased by 3% of the original annuity at the first payment date following the later of age 60 or the first anniversary of retirement, and by 3% annually thereafter.

Covered employees are required to contribute 8.5% of their salary to the Laborers' Plan. If an employee leaves covered employment without qualifying for an annuity, accumulated contributions are refunded with interest (3% or 4% depending on when employee became a participant). The City of Chicago is required by state statutes to contribute the remaining amounts necessary to finance the requirements of the fund. It is required to levy a tax at a rate not more than an amount equal to the total amount of contributions by the employees to the fund made in the calendar year two years prior to the year for which the annual applicable tax is levied, multiplied by 1.37 annually.

#### **Plan Assets**

Bonds are stated at amortized value; stocks are at cost; real estate separate accounts are at adjusted cost.

#### **Funding Status and Progress**

The amount shown below as the **pension benefit obligation** is a standardized disclosure measure of the present value of pension benefits, adjusted for the effects of projected salary increases and step-rate benefits, estimated to be payable in the future as a result of employee service to date. The measure is intended to help users assess the funding status of the system on a going concern basis, assess progress made in accumulating sufficient assets to pay benefits when due, and make comparisons among employers. The measure is the Actuarial Present Value (APV) of credited projected benefits and is independent of the funding method used to determine contributions to the system. No split between vested and non-vested current employees is possible, due to the different vesting schedules of the defined benefit and defined contribution portions of the benefits.

The pension benefit obligation was computed as part of an actuarial valuation performed as of December 31, 1989. Significant actuarial assumptions used in the valuation for 1989 include: (a) a rate of return on the investment of present and future assets of 8.0% per year (net of investment expense) compounded annually; (b) projected salary increases of 4% per year compounded annually, attributable to inflation; (c) additional projected salary increase of 2% per year, attributable to seniority/merit; and (d) post-retirement benefit increases of 3% per year for employee annuitants age 60 and over. The investment return assumption was changed from 7.5% to 8.0% net of investment expense.

At December 31, 1989, the excess of assets over the pension benefit obligation was \$77,562,956. At December 31, 1988, this excess was \$43,269,339.

Pension Benefit Obligation (PBO)	1988	1989
APV of Credited Projected Benefits		
Payable to Retirees and Beneficiaries	\$229,024,543	\$241,519,125
Current Employees: Accumulated Employee Contributions	\$133,793,756	\$143,445,325
Payable to Vested and Non-Vested Current Employees	<u>\$178,811,596</u>	<u>\$183,786,037</u>
Total APV	\$541,629,895	\$568,750,487
Net Assets Available for Benefits, at Cost (Market Value \$687,485,749)	<u>\$584,899,234</u>	<u>\$646,313,443</u>
Assets Over APV Percentage Funded Surplus APV as Percent of Payroll	(\$43,269,339) 107.99% (32.61%)	(\$77,562,956) 113.64% (54.61%)

Current year changes in the actuarial assumptions and benefit provisions are reflected in the December 31, 1989 pension benefit obligation shown above. The changes in actuarial assumptions decreased the pension benefit obligation by \$35,511,589. The changes in benefits increased the pension benefit obligation by \$19,234,042.

#### **Contributions Required and Contributions Made**

The Plan's funding policy provides for an employer contribution which, when added to the amounts contributed by the employees, will be sufficient for the requirements of the Fund. This amount cannot be more than an amount equal to the total amount of contributions by the employees to the Fund made in the calendar year two years prior to the year of the employer contribution, multiplied by 1.37.

The total required annual actuarial contribution to the Fund (financed by the employee and the City) is equal to the current service cost plus interest only on the unfunded liability determined using the entry age normal method. The unfunded liability is recognized but not amortized. The employer contribution required for interest only on the unfunded liability results in a decreasing annual employer cost expressed as a percentage of payroll as future payrolls increase. Since the tax levy is expressed as a multiple of the total salary deductions made two years prior, the City is effectively contributing a level annual percentage of payroll.

For the year 1989 (based on a 1989 multiple of 1.37), the City contributed (after tax levy losses of 4%) \$15,257,738 or 11.50% of payroll. For 1989, the employee contributions were \$12,592,606 or 9.44% of payroll. As the current cost requirement for the entry age normal method plus the requirement for interest only on the unfunded liability was 15.99% of payroll, an excess of 4.95% of payroll or \$6,570,202 was contributed. Such contribution is applied to amortize the unfunded liability.

The annual actuarial contribution to the Fund for 1990 (based on normal cost plus interest only basis) decreased by \$5,805,287 because of the change in actuarial assumptions (investment return) and increased by \$1,753,999 because of the changes in benefits.

On an alternative amortization basis for 1989, the current service cost plus an amount to amortize the present unfunded liability over a sliding 40 year period with increasing payments at 4% representing a constant percentage of payroll, assuming a total of future payroll increase at 4% a year, an excess of 5.34% of payroll or \$7,084,955 was contributed.

It is estimated for 1990 that contributions will again more than meet the standard. Consideration should be given to the steady decline in membership.

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#### GASB DISCLOSURE Annual Actuarial Requirements Actuarial Recommended Contribution (Employer and Employee) Normal Cost Plus Various Amortization Methods

	Α	В	C NC Plus	D	A	В	С	D
Year	Normal Cost	NC Plus Interest	ERISA 40-Year Amortization	NC Plus Increasing % of Salary		Express ercentage Beginning	of Sala	
1980	\$15,545,973	\$21,699,408	\$22,362,086	\$19,478,525	14.69%	20.50%	21.13%	18.41%
1981	18,591,872	25,019,195	25,711,368	22,699,461	17.08	22.98	23.62	20.85
1982	17,061,001	23,885,754	24,620,727	21,422,580	14.45	20.23	20.86	18.15
1983°	17,083,585	24,484,651	25,070,322	21,442,931	12.72	18.23	18.67	15.97
1984 <sup>b</sup>	17,764,567	25,818,914	26,456,281	22,731,331	13.52	19.66	20.14	17.31
1985	19,299,995	26,200,791	26,746,874	23,555,414	14.70	19,95	20.37	17.94
1986 <sup>a,b</sup>	19,870,609	24,965,655	25,330,252	22,617,955	15.82	19.88	20.17	18.01
1987 <sup>a,b</sup>	18,826,921	20,171,065	20,249,927	19,681,589	14.64	15.68	15.75	15.30
1988 <sup>a,b</sup>	20,008,465	22,636,952	22,791,167	21,679,777	14.77	16.71	16.83	16.01
1989	19,803,585	21,217,142	21,300,076	20,702,389	14.93	15.99	16.05	15.60
1990 <sup>a,b</sup> e:	st 17,819,965	17,819,965	17,819,965	17,819,965	12.55	12.55	12.55	12.55

## Actual Employer and Employee Contribution

	E	F	E	F	
Year			Expressed as a Percen of Salary Beginning of		
1980	\$11,791,330	\$9,729,912	11.14%	9.19%	
1981	12,392,694	10,522,389	11.38	9.67	
1982	12,589,417	11,546,286	10.66	9.78	
1983ª	13,681,225	11,608,537	10.19	8.64	
1984 <sup>6</sup>	14,996,619	11,531,243	11.42	8.78	
1985	15,035,039	11,569,775	11.45	8.81	
1986 <sup>a,b</sup>	14,765,250	11,691,095	11.76	9.31	
1987 <sup>ª,b</sup>	14,745,709	11,774,209	11.47	9.16	
1988 <sup>a,b</sup>	15,157,663	11,740,621	11.19	8.67	
1989ª	15,257,738	12,529,606	11.50	9.44	
1990 <sup>a,b</sup> est	14,662,080	12,072,065	10.32	8.50	

<b>Deficiency (Excess) in Annual Contribution</b>						
	G	Η	I	G	Н	I
Year	NC Plus Interest	NC Plus ERISA 40-Year Amortization	NC Plus Increasing % of Salary	Expressed as a Percentage of Salary Beginning of Year		ary
1980	\$178,166	\$840,844	(\$2,042,717)	0.17%	0.79%	(1.93%)
1981	2,104,112	2,796,285	(215,622)	1.93	2.57	(0.20)
1982	(249,949)	485,024	(2,713,123)	(0.21)	0.41	(2.30)
1983°	(805,111)	(219,440)	(3,846,831)	(0.60)	(0.16)	(2.86)
1984 <sup>6</sup>	(708,948)	(71,581)	(3,796,531)	(0.54)	(0.05)	(2.89)
1985	(404,023)	142,060	(3,049,400)	0.31	0.11	(2.32)
1986 <sup>a,b</sup>	(1,490,690)	(1,126,093)	(3,838,390)	(1.19)	(0.90)	(3.06)
1987 <sup>a,b</sup>	(6,348,853)	(6,269,991)	(6,838,329)	(4.94)	(4.88)	(5.32)
1988 <sup>ª,b</sup>	(4,261,332)	(4,107,117)	(5,218,507)	(3.15)	(3.03)	(3.85)
1989ª	(6,570,202)	(6,487,268)	(7,084,955)	(4.95)	(4.89)	(5.34)
1990 <sup>a,b</sup> est	(8,914,180)	(8,914,180)	(8,914,180)	(6.28)	(6.28)	(6.28)

<sup>a</sup>Change in actuarial assumptions <sup>b</sup>Change in benefits

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#### **Trend Information**

Trend information gives an indication of the progress made in accumulating sufficient assets to pay benefits when due. For 1984 and 1985, the assets were insufficient to cover the pension benefit obligation. For 1986 through 1989, the assets exceeded the amount needed for the pension benefit obligation.

Year	Assets Available for Benefits as a % of Pension Benefit Obligation	Unfunded Pension Benefit Obligation (Surplus) as a % of Covered Payroll	Employer Contributions as a % of Covered Payroll
1984	85.89%	44.65%	11.42%
1985	93.91	21.71	11.45
1986	107.42	(26.28)	11.76
1987	104.78	(18.43)	11.47
1988	107.99	(32.61)	11.19
1989	113.64	(54.61)	11.50

#### **Employer Contributions**

Year	Required Normal Cost Plus Interest Only Basis	Required Statutory Basis <sup>1</sup>	Actual <sup>2</sup>
1984	\$14,653,668	\$14,972,550	\$14,996,619
1985	15,037,923	14,979,650	15,035,039
1986	14,290,107	14,765,250	14,765,250
1987	9,239,911	14,659,550	14,745,709
1988	11,123,439	14,784,800	15,157,663
1989	9,938,865	14,843,700	15,257,738

## <sup>1</sup>Tax levy after 4% overall loss

<sup>2</sup>Net tax levy and miscellaneous income

## **Income and Payouts**

Year End	Employee Contributions <sup>1</sup>	Employer Contributions <sup>2</sup>	Investment Income <sup>3</sup>	Total Income
1972	\$5,928,386	\$4,793,135	\$5,391,547	\$16,113,068
1973	6,269,104	5,463,149	4,394,426	16,126,679
1974	6,597,012	6,103,125	4,646,080	17,346,217
1975	7,375,222	6,699,000	8,665,212	22,739,434
1976	7,887,179	7,287,000	10,785,585	25,959,764
1977	8,568,248	8,470,000	11,993,200	29,031,448
1978	9,077,825	9,477,125	10,112,216	28,667,166
1979	9,571,764	11,108,298	13,547,589	34,227,651
1980	9,729,912	11,791,330	12,626,861	34,148,103
1981	10,522,389	12,392,694	9,631,793	32,546,876
1982	11,546,286	12,589,417	19,729,269	43,864,972
1983	11,608,537	13,681,225	31,809,924	57,099,686
1984	11,531,243	14,996,619	28,832,621	55,360,483
1985	11,569,775	15,035,039	58,720,209	85,325,023
1986	11,691,095	14,765,250	67,653,382	94,109,727
1987	11,774,209	14,745,709	58,220,924	84,740,842
1988	11,740,621	15,157,663	42,386,313	69,284,597
1989	12,529,606	15,257,738	66,965,633	94,752,977

Year		Administrative and Investment			Income Less
End	Benefits	Expenses	Refunds	Total	Pay Outs <sup>4</sup>
1972	\$5,014,917	\$208,278	\$1,201,934	\$6,425,129	\$9,687,939
1973	5,587,346	215,796	1,322,312	7,125,454	9,001,225
1974	6,329,476	231,455	1,438,356	7,999,287	9,346,930
1975	7,028,933	261,733	1,400,097	8,690,763	14,048,671
1976	7,710,946	288,228	1,483,562	9,482,736	16,477,028
1977	8,704,971	316,160	1,798,049	10,819,180	18,212,268
1978	9,764,039	350,648	2,339,764	12,454,451	16,212,715
1979	10,795,166	438,914	2,821,593	14,055,673	20,171,977
1980	12,161,292	440,591	4,195,056	16,796,939	17,351,164
1981	12,880,890	640,795	3,074,561	16,596,246	15,950,630
1982	13,851,434	626,772	1,860,636	16,338,842	27,526,130
1983	14,828,962	641,349	1,936,538	17,406,849	39,692,837
1984	16,582,310	766,485	3,124,454	20,473,249	34,887,234
1985	18,516,249	1,266,552	2,273,021	22,055,822	63,269,201
1986	20,881,472	2,006,912	2,886,317	25,774,701	68,335,026
1987	23,465,597	2,223,312	2,012,475	27,701,584	57,039,258
1988	27,467,689	2,264,746	1,756,290	31,488,725	37,795,872
1989	28,966,184	2,873,149	1,832,628	33,771,961	60,981,016

Statistical material required by Government Accounting Standards Board

<sup>1</sup>Includes deductions in lieu for disability <sup>2</sup>Net tax levy and miscellaneous income <sup>3</sup>Includes realized net loss on sale and exchange of bonds

<sup>4</sup>Does not include prior year adjustments

#### Analysis of Funding Progress<sup>1</sup>

Year	Net Assets Available for Benefit (Book)	Pension Benefit Obligation	Percentage Funded	Unfunded (Surplus) Pension Benefit Obligation	Annual Covered Payroll	Unfunded (Surplus) as a % of Covered Payroll
1984	\$356,809,111	\$415,442,598	85.89%	\$58,633,487	\$131,327,856	44%
1985 <sup>ª, b</sup>	420,554,173	447,815,793	93.91	27,261,620	125,594,688	21
1986 <sup>a, b</sup>	489,403,006	455,604,084	107.42	(33,798,922)	128,601,816	(26)
1987ª, <sup>b</sup>	546,947,052	521,981,791	104.78	(24,965,261)	135,453,096	(18)
1988ª	584,899,234	541,629,895	107.99	(43,269,339)	132,685,608	(33)
1989 <sup>a, b</sup>	646,313,443	568,750,487	113.64	(77,562,956)	142,024,296	(55)

Analysis of the dollar amounts of net assets available for benefits, pension benefit obligation, and unfunded pension benefit obligation in isolation can be misleading. Expressing the net assets available for benefits as a percentage of the pension benefit obligation provides one indication of funding status on a going-concern basis. Analysis of this percentage over time indicates whether the system is becoming financially stronger or weaker. Generally, the greater this percentage, the stronger the system. Trends in unfunded pension benefit obligation and annual covered payroll are both affected by inflation. Expressing the unfunded pension benefit obligation as a percentage of annual covered payroll approximately adjusts for the effects of inflation and aids analysis of progress made in accumulating sufficient assets to pay benefits when due. Generally, the smaller this percentage, the stronger the retirement system.

<sup>1</sup>The disclosure made in this exhibit does not include other appropriate measures of funding progress which must also be examined to obtain the complete picture.

<sup>a</sup>Change in actuarial assumptions <sup>b</sup>Change in benefits

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#### SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

Method: The actuarial funding method used is the entry age normal method which reflects actuarial gains and losses immediately in the unfunded liability.

This cost method assigns to each year of employment a constant percentage of an employee's salary, called the **current service cost** (sometimes referred to as **normal cost**), sufficient to accumulate the necessary funds to provide for the full prospective costs of the employee's projected retirement pension. The amount of pension must be estimated using various assumptions as to future compensation levels, employee turnover, mortality and pension fund earnings, since the actual pension can be known only at the time of retirement. These are called actuarial assumptions.

It should be emphasized that the actuarial assumptions do not directly affect the cost of the pension plan. Benefits are fixed by statute and will become payable as various members and their dependents satisfy the contingencies covered. The actual cost of the plan can only be determined after all benefits have been paid and is equal to the total benefits paid, plus total administrative expenses, minus total investment income.

The accrued liability of the fund at any point in time is the accumulated value of all current service costs that should have been paid up at that time for active employees plus the full prospective cost of pensions for all retired employees. The extent that the actual plan assets are less than the accrued liability is called the unfunded liability.

An amount of money is required each year to keep the **unfunded liability** from increasing if all assumptions are realized. This amount is called **interest only** on the **unfunded liability**.

The required total actuarial contribution to the fund is equal to the current service costs plus interest only on the unfunded liability. If there is a surplus rather than an unfunded liability, the required total actuarial contribution to the Fund is equal to the current service cost only. This is the funding policy. This minimum method of funding, often referred to as the middle of the road method, is the method the fund has tried to follow in the past. It has evolved over the years and seeks to satisfy the ideologies of all interested groups, including opinions often expressed by the Civic Federation. No funds are provided for amortization of the unfunded liability.

Reserves for employees' retirement annuities, spouses' retirement annuities and death benefit annuities are valued on the entry age normal method. Grouped ages of entry, 22, 27, 32, 37, 42, 47, 52, 57, and 62 and over, are used.

The costs for the following items are valued on an actuarial cost basis. No reserves are set up, as these items tend to stabilize on a cash basis.

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#### SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

- 1. Duty disability benefits
- 2. Ordinary disability benefits
- 3. Children's annuities
- 4. Refunds, including refunds for no spouse
- 5. Expense of administration (net of investment expense)

Reserves are set up for duty, and ordinary disability recipients as if they were in active service.

#### **Actuarial Assumptions**

Actuarial assumptions are selected by the actuary, but the statute calls for certain reserves to be computed with specified assumptions.

Mortality: Active members, present and future retired members and spouses: UP-1984 Mortality Table, male and female.

Interest: 8.0% a year (net of investment expense), compounded annually. An exhibit details the investment yields the Fund actually realized over the past few years. This assumption contains a 4% inflation assumption and a 4% real rate of return assumption.

Interest earnings over the assumed rate can be used to reduce losses that may result from variations in other cost factors, such as increased costs resulting from salary increases greater than the assumed rate.

It must be realized that the interest assumption is a long-range assumption; it must cover a period as long as perhaps 50 years, which would be the period of time, for example, that the youngest employee in the Fund will work before retiring on pension for the rest of his or her life. There is no guarantee that the current high interest rates will continue over this period.

Salary Increase: 6% a year, compounded annually. An exhibit details the annual increase in the average salary over the past years, which averages greater than 6%. This assumption contains a 4% inflation assumption and a 2% merit and longevity assumption.

It should be remembered that pensions are based directly upon salary. It is believed that if the recent pattern continues in the long-range future, the salary scale assumption will need to be increased.

Increased costs will necessarily result, with the extent of the increase in cost depending on the extent of the increase in salary over the assumed time period.

**Rate of Retirement:** The rates of retirement used in this valuation are shown in an exhibit grouped by age of entrance into the service and are based on 1985, 1986, and 1987 experience of this Fund for males and on experience of the Municipal Fund for females. These rates reflect the changing pattern of retirement.

#### SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

Rate of Termination: These rates are shown in an exhibit and are based on the experience of the Fund.

Proportion Married: This is shown in an exhibit.

Active Membership: It is assumed that the future active membership of the Fund will remain at the present level and that the average age at entrance into the service will be about the same in the future as it has been in the past. The actuarial costs are based on the present group. If future entrants to the Fund are older than the present group, then costs will tend to increase. Conversely, if new entrants are younger, then costs will tend to decrease.

Age of Spouse: The spouse of a male employee is assumed four years younger; the spouse of a female employee is assumed four years older.

Asset Value: Bonds are at amortized value, stocks are at cost, real estate separate accounts are at adjusted cost.

**Reciprocal Benefits:** Active life normal costs and reserves are loaded 2%.

Loss on Tax Levy: 4% overall is assumed for all future years.

**Group Health Insurance Premiums:** It is assumed for valuation purposes that the current health insurance supplement will continue for life for all employee annuitants (and their future widows). The amount of the Fund paid health insurance from January 1, 1988 until December 31, 1992 is \$65.00 per month for each annuitant (employees and widows) not qualified to receive Medicare benefits (and \$35.00 if qualified) and from January 1, 1993 until December 31, 1997 the amounts will be \$75.00 and \$45.00, respectively. It is assumed that all annuitants age 65 or over will be eligible for Medicare and all annuitants less than age 65 will not be eligible for Medicare. Future widows of retirees are assumed to be eligible for Medicare, and widow annuitants currently receiving a health insurance supplement and for all active employees upon their retirement and their widows upon employee's death.

**Required Tax Multiple:** It is computed using the actuarial requirement less expected employee contributions (increased to adjust for the loss on the tax levy) divided by the expected employee contributions computed two years prior using the actuarial salary scale. If the actual contributions had been used, the result would be somewhat different. The method used approximates a steady condition of uniformly increasing salaries.

## Exhibit U

# SERVICE TABLE FUNCTIONS

## **Rates of Retirement**

Male									
Attained				Ag	ge at Entra	ance			
Age	22	27	32	37	42	47	52	57	62
55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70	$\begin{array}{c} .10\\ .06\\ .30\\ .30\\ .50\\ .50\\ .50\\ .75\\ .75\\ 1.00\end{array}$	$\begin{array}{c} .03\\ .04\\ .04\\ .05\\ .20\\ .22\\ .25\\ .30\\ .35\\ .50\\ .75\\ 1.00\end{array}$	$\begin{array}{c} .01\\ .01\\ .02\\ .02\\ .03\\ .09\\ .09\\ .15\\ .24\\ .28\\ .40\\ .45\\ .50\\ .75\\ .75\\ 1.00\end{array}$	$\begin{array}{c} .07\\ .02\\ .04\\ .10\\ .12\\ .33\\ .40\\ .45\\ .65\\ .65\\ .70\\ .75\\ .75\\ 1.00\end{array}$	$\begin{array}{c} .01\\ .01\\ .04\\ .04\\ .04\\ .07\\ .09\\ .11\\ .42\\ .46\\ .50\\ .75\\ .75\\ 1.00\end{array}$	$\begin{array}{c} .02\\ .02\\ .03\\ .05\\ .06\\ .08\\ .13\\ .22\\ .50\\ .75\\ 1.00\end{array}$	.02 .02 .03 .05 .30 .15 .20 .75 1.00	.02 .05 .10 .10 .15 .20 .20 .50 .50 .75 1.00	.02 .05 .10 .15 .20 .50 .75 1.00
Female									
55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70	$ \begin{array}{r} .10\\.10\\.35\\.10\\.25\\.40\\.50\\.50\\.75\\.75\\1.00\end{array} $	$\begin{array}{c} .05\\ .07\\ .09\\ .09\\ .11\\ .28\\ .30\\ .33\\ .50\\ .50\\ .75\\ .75\\ 1.00\end{array}$	$\begin{array}{c} .04\\ .04\\ .05\\ .06\\ .08\\ .12\\ .15\\ .30\\ .33\\ .22\\ .24\\ .27\\ .30\\ .50\\ .75\\ 1.00\end{array}$	.01 .02 .03 .10 .13 .14 .15 .15 .42 .20 .30 .50 .75 1.00	$\begin{array}{c} .01\\ .01\\ .02\\ .04\\ .08\\ .09\\ .10\\ .25\\ .27\\ .33\\ .50\\ .75\\ 1.00\end{array}$	$\begin{array}{c} .01\\ .01\\ .02\\ .02\\ .03\\ .03\\ .03\\ .13\\ .15\\ .25\\ .50\\ .75\\ 1.00\end{array}$	.02 .03 .04 .05 .05 .06 .07 .50 .75 1.00	.02 .03 .03 .04 .06 .08 .12 .50 .75 1.00	.02 .04 .15 .18 .22 .50 .75 1.00

#### **Expected Average Age of Retirement**

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Present Membership	61.99
New Hires	62,74

#### Exhibit U

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## SERVICE TABLE FUNCTIONS

## **Rates of Termination**

Male									
				Age	e at Entrai	nce			
Attained Age	22	27	32	37	42	47	52	57	62
22 27 32 37 42 47 52 57 62 67	.223 .116 .050 .021 .012 .005	.262 .100 .046 .025 .012 .005	.219 .098 .022 .010 .005	.221 .088 .034 .017	.176 .080 .028	.142 .076	.120 .046	.112	.148
Female									
22 27 32 37 42 47 52 57 62 67	.140 .108 .052 .022 .008	.174 .085 .038 .022 .013 .005	.108 .062 .033 .017 .009	.074 .051 .028 .015	.054 .033 .020	.063 .033	.054 .036	.056	.027

Attained Age	Male Death Rate UP-1984 Per Thousand	Female Death Rate UP-1984 Per Thousand	Proportion Married Percent
22	1.167	1.385	81%
27	1.058	1.167	81
32	1.208	1.058	81
37	1.792	1.208	80
42	2.818	1.792	83
47	4.635	2.818	83
52	7.543	4.635	84
57	11.863	7.543	82
62	18.685	11.863	80
67	29.634	18.685	78
70	37.667	24.847	74

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#### **ACTUARIAL EXPERIENCE**

The actuarial assumptions for retirement, withdrawal and pre-retirement mortality determine when and if a benefit is expected to be paid. The post-retirement mortality determines how long the benefit is expected to be paid. Once the actives enter service, there is a probability that they will not be in the work force at the end of each year because of withdrawal, retirement or death, at which time they may be eligible for a benefit to be paid. The withdrawal and retirement rates for the Laborers' Fund have been based on past experience of this Fund and the Municipal Fund with adjustments for expected changes in the future. The pre-retirement and post-retirement mortality are based on a published table, the UP-84 and not on the experience of this Fund. The actual experience of the Fund is compared to the expected experience of the Fund each year and changes in the rates or tables are made when the future expectations differ from the expectations using the current rates.

#### **Actuarial Experience**

#### Actual to Expected

		Mortality			
Year	Active	Retired	Widow	Retirement	Withdrawal
1979	1.35	1.54	1.54	1.25	1.37
1980	1.57	1.06	1.21	1.46	2.63
1981	1.47	1.25	2.06	1.38	2.11
1982	1.00	1.41	1.72	.95 <sup>1</sup>	1.08
1983	.98 <sup>2</sup>	1.49 <sup>2</sup>	1.66 <sup>2</sup>	.99	1.02
1984	.69	1.45	1.63	1.27	1.23
1985	1.52	1.65	2.70	.98	1.32
1986	.88	1.52	1.70	1.44	1.43
1987	1.90	1.45	1.87	1.11	.63
1988	1.34	1.26	1.37	.751	.68
1989	1.31	1.21	1.29	.64	.67

<sup>1</sup>New retirement rates <sup>2</sup>New mortality rates

#### Exhibit V

#### **ACTUARIAL EXPERIENCE**

## Attained Age at Retirement, 1989

			Age at Entrance - Male							
Age	22	27	32	37	42	47	52	57	62	Total
55		2								2
56	5									5
57	5 3 3	1								4
58	3									3
59		1	1							2
60	5	3	1			1				10
61	4		1	1						6
62	3	2	1	2	3					11
63		1	3	1	2	1				8
64			2	2 3	1		1			6
65		3		3	2	3	2		2	15
66					3	1			1	5
67		1		1	2	1		1		6
68			1		2					3
69			2		2	1	1			б
70										
Total	23	14	12	10	17	8	4	1	3	92

6 male employees retired before age 55 or after age 70 in 1989.

Age at Entrance - Female										
Age	22	27	32	37	42	47	52	57	62	Total
55				1						1
56										
57										
58										
59										
60			2							2
61			1	2						3
62										
63			2 1	1						3
64			1		2					3 3
65				2			1			3
66				4						4
67			1	2 1						3 5 3 3
68				1	4					5
69					2 2	1				3
70				1	2					3
Total	0	0	7	14	10	1	1	0	0	33

2 female employees retired before age 55 or after age 70 in 1989.

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#### Exhibit W

## **IMPACT STATEMENT**

Fund	Laborers'
Annual Payroll	\$142,024,296
Active Members	4,592
Valuation Date	December 31, 1989

# Present Plan

(1)	Accrued Pension Liability	\$633,894,540
(2)	Present Assets	\$646,313,443
(3)	Unfunded Liability = $(1) - (2)$	(\$12,418,903)
(4)	Funded Ratio = $(2)/(1)$	101.96%

## **Direction of Financial Condition**

.

			Per Active	Percent of Salary
(5)	Minimum Recommended Annual Contribution	\$17,819,965	\$3,881	12.55%
(6)	Estimated Annual Employer Contribution	\$14,662,080	\$3,193	10.32%
(7)	Estimated Annual Employee Contribution	\$12,072,065	\$2,629	8.50%
(8)	Deficiency (Excess) in Annual Contributions = (5) - (6) - (7)	(\$8,914,180)	(\$1,941)	(6.28%)

#### PLAN SUMMARY

#### **Participants**

Person employed by the City in a position classified as labor service of the employer, any person employed by the Board, any person employed by the Retirement Board of any other Annuity and Benefit Fund which is in operation for the employer.

#### Service

For all purposes except formula minimum annuity and ordinary disability credit, service in four months in any calendar year constitutes one year of service credit.

For minimum annuity, one half-year credit is given for one completed month of service and a full year credit is given for one complete month of service plus service in at least 5 other months. For Ordinary Disability credit, the exact number of days, months and years are used.

#### **Retirement Annuity**

Money Purchase Formula: Maximum is 60% of highest salary. Applies in cases where an employee is age 55 or more and has over 10 years of service. If employee is age 55 to 60 with service less than 20 years, the annuity is based on all employee deductions plus 1/10 of the City contributions for each year over 10. In the case of withdrawal before age 55 and application after age 55, the annuity is based on employee deductions plus 1/10 of the City contributions for each year over 10, with interest to date of application or age 55, whichever is later. The age factor for age 55 is used.

The annuity is based on all employee deductions and City contributions in cases where the employee is: (a) age 55 to 60 with 20 or more years of service; (b) age 60 or over; (c) resigning at the time of disability expiration.

Minimum Annuity Formula: Maximum is 75% of final average salary.

- a. An employee age 55 or older withdrawing on or after August 16, 1985, with at least 20 years of service, is qualified for an annuity equal to 1.8% for each of the first 10 years of service, plus 2% for each of the next 10 years, plus 2.2% for each of the next 10 years, and 2.4% for each year of service over 30 years of the final average salary during the four highest consecutive years within the last 10 years of service prior to retirement. This annuity is discounted 0.25% for each month the employee is younger than 60 to age 55 unless he has at least 35 years of service.
- b. An employee who is at least age 65 with 15 or more years of service is qualified for an annuity equal to 1% for each year of service multiplied by the final average salary added to the sum of \$25 for each year of service.

c. The employee will receive a minimum annuity of \$250 per month if the employee retires at age 60 or more with at least 10 years of service on or after January 1, 1988.

**Reversionary Annuity:** An employee may elect to reduce his or her annuity by an amount less than or equal to \$200 to provide a reversionary annuity for a spouse, parent, child, brother, or sister, to begin upon the employee's death. The election must be made before retirement and have been in effect 2 years prior to death. The death of the employee before retirement voids the election. The reversionary annuity cannot exceed 80% of the employee's reduced annuity. If the employee resigns after June 30, 1983, the 3% automatic annual increase in annuity will be computed on the original, not the reduced annuity; if the beneficiary dies before the employee annuitant, the full annuity is restored for annuities elected after June 30, 1983. The amount of the monthly reversionary annuity is determined by multiplying the amount of the monthly reduction in the employee's annuity by a factor based on the age of the employee and the difference in the age of the reversionary annuitant at the starting date of the employee's annuity.

**Reciprocal Annuity:** Under reciprocal retirement an employee can receive an annuity based on continued service credits in two or more governmental units in Illinois to whose pension fund he or she has contributed for at least one year.

Automatic Increase in Annuity: An employee who is age 60 or more is entitled to receive 2% of the original annuity, such increase to begin in January of the year immediately following the year of the first anniversary of retirement. Beginning with January of the year 1984 such increases are at the rate of 3% of the original annuity. An employee who retires prior to age 60 will receive such increase beginning in January of the year following the year he attained age 60. Effective for retirements on or after January 1, 1987, the first increase shall begin upon the first annuity payment date following the first anniversary of retirement, or age 60 if later.

#### Spouse's Annuity (payable until remarriage)

Money Purchase Formula: When an employee retires, the spouse's annuity is fixed, based on employee deductions and City contributions made for spouses' annuity purposes and a joint life age factor. (If the employee is a female, these are deductions accumulated since October 1974.)

If the employee dies in service, the spouse's annuity is based on all sums accumulated to their credit.

For 3% annuities fixed on or after August 1, 1983, the "Combined Annuity Mortality Table" shall continue to be used; however, widows'/widowers' single life annuities and reversionary annuities shall be computed using the best factor (the factor producing the highest annuity), not depending upon sex. **Spouses' Minimum Annuity Formula:** If the employee is at least age 60 and has 20 or more years of service, the spouse's annuity is equal to half the amount of annuity the employee was entitled to at the time of death, if death occurred before retirement, or was entitled to receive on the date of retirement, if the employee died after retirement. This annuity is subject to a maximum of \$400 (\$500 if retirement or death before retirement occurs on or after January 1, 1984. Effective January 23, 1987, there is no maximum dollar amount) and must be then discounted .25% for each month that the spouse is under age 60 at the time the annuity is fixed.

In the case of the spouse of a female employee, the female employee must have made contributions for her spouse for at least 20 years to qualify for the minimum annuity formula. Current female employees may elect to pay spouse contributions for their service before October 1974.

The spouse will receive a minimum annuity of \$200 per month if employee retires with at least 10 years of service or dies in service with at least 5 years on or after January 1, 1988.

#### Children's Annuity

Child's annuity is payable upon the death of the employee, either active or retired, if the child is unmarried, under age 18, born before his separation from service or legally adopted at least one year before child's annuity becomes payable and prior to the attainment of age 55 by the adopting employee parent. Annuity is \$120 per month while spouse of deceased employee is alive and \$150 per month if no spouse is alive. Except for duty death deceased employee must have had 4 years of service or at least 2 years from latest re-entrance if he had previously resigned from service.

#### **Family Maximum**

Non-Duty Death: 60% of final monthly salary.

**Duty death**: 70% of final monthly salary.

#### Disabilities

**Duty Disability Benefits:** Any employee who becomes disabled as the result of injury incurred in the performance of any act of duty, shall have a right to receive duty disability benefit in the amount of 75% of salary at date of injury plus \$10 a month for each unmarried child (the issue of the employee) less than age 18. Child's duty disability benefit is limited to 15% of the employee's salary as of date of injury. Duty disability benefits begin one day after the later of the last day worked and the last day paid.

If the disability has resulted from any mental disorder, physical defect or disease which existed at the time such injury was sustained, the duty disability benefit shall be 50% of salary at date of injury. Disablement because of heart attacks, strokes, or any disablement due to heart disease shall not be considered to be the result of an accident suffered in the performance of duty.

Duty disability benefit is payable to age 65 if disability begins before age 60. For an employee who begins disability on or after age 60, disability will continue for 5 years or to age 70, whichever occurs first. Beginning January 1, 1987, the age 70 limitation is removed. The City contributes salary deductions for annuity purposes. Such amounts contributed by the City after December 31, 1983, while the employee is receiving duty disability benefits, are not refundable to the employee and will be used for annuity purposes only.

**Ordinary Disability Benefit**: Disability other than in performance of an act of duty ... 50% of salary less the sum ordinarily deducted from salary for annuity purposes, as of last day worked payable until age 65 and limited to a maximum of 25% of employee's total service or 5 years, whichever occurs first if disability begins before age 60. For an employee who begins disability on or after age 60, disability will continue for a period not greater than 25% of employee's total service, but no more than 5 years or age 70, whichever occurs first. Beginning January 1, 1987, the age 70 limitation is removed.

#### Group Health Hospital and Surgical Insurance Premiums

The pension fund may provide up to a maximum of \$65 per month for non-Medicare eligible annuitants (employees or widows, without regard to age or years of service) and up to \$35 per month for Medicare eligible annuitants. From January 1, 1993 until December 31, 1997 these amounts will be \$75 and \$45 per month, respectively.

#### Refunds

**To Employee:** Upon separation from service, employee is entitled to all salary deductions plus interest if employee is under age 55. If over age 55 employee is eligible for refund if he has less than 10 years of service or would be eligible for temporary rather than life annuity. Effective September 17, 1983, employee may choose a refund in lieu of annuity if annuity would be less than \$200 per month.

Spouse's annuity deductions are payable to employee if not married when he retires.

**To Spouse:** In lieu of annuity if annuity would be temporary rather than life and spouse so chooses. Effective September 17, 1983, spouse may choose a refund in lieu of annuity if annuity would be less than \$200 per month.

**Remaining Amounts:** Amounts contributed by employee excluding 0.5% deductions for annuity increase, which have yet not been paid out as annuity, are refundable to his estate with interest to his retirement or death if he died in service.

#### **Deductions and Contributions**

	Deductions	<b>Contributions</b> <sup>1</sup>
Employee	6.5%	6%
Spouse	1.5%	2%
Annuity Increase	0.5%	
Total	8.5%	8%

#### <sup>1</sup>Financing

The City shall levy a tax annually equal to the total amount of contributions in the 2 years prior, multiplied by 1.370 for 1978 and each year thereafter.

#### Tax Shelter of Employee Salary Deductions

Beginning January 1, 1982, the City employee salary deductions were designated for income tax purposes to be made by the employer. The W-2 salary is therefore reduced by the amount of contribution. For pension purposes the salary remains unchanged. Income tax will be paid when a refund or annuity is granted. For the purposes of benefits, refunds, or financing, these contributions are treated as employee contributions. Beginning September 1, 1981, Board of Education employee contributions were paid by the employer. The 1985 amendments contained a provision whereby the amount of pick-up, if any, is included in the pensionable salary for contributions and benefits. Such provision was retroactive to September 1, 1981.