LABORERS' AND RETIREMENT BOARD
EMPLOYEES' ANNUITY AND BENEFIT
FUND OF CHICAGO
ACTUARIAL STATEMENT
DECEMBER 31, 1986

DONALD F. CAMPBELL

CONSULTING ACTUARIES
221 NORTH LA SALLE STREET SUITE 3117
CHICAGO, ILLINOIS 60601
TELEPHONE 782-1335

April 24, 1987

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, 1986, 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 1986. This statement has been prepared from the 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.

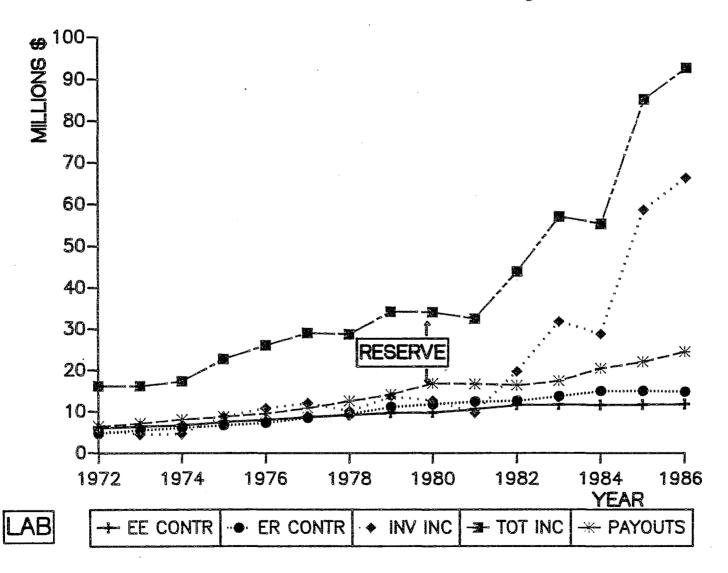
This statement has been prepared in accordance with generally accepted actuarial principles and practice.

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

| The following represents a summary of | 1986 Laborers' Actual (1986 include: Last Year | s HB2630 amendments) |
|--|--|-----------------------------|
| INCOME: Investment Employer Employee Total | \$ 58,720,209 \$ 15,035,039 \$ 11,569,775 \$ 85,325,023 | |
| OUTGO: Refunds, Benefits, Expenses | \$ 22,055,822 | \$ 25,774,701 |
| EXCESS OF INCOME OVER OUTGO | \$ 63,269,201 | \$ 68,335,026 |
| ACTIVE PARTICIPANTS | 5,138 | 4,844 |
| BENEFICIARIES Employee Spouse Disabilities Children | 2,419 1,212 218 104 | 2,487 1,228 354 92 |
| ACTUARIAL: Assets (Total at book value) | \$420,554,173 | \$489,403,006 |
| Funded Ratio | 84.82% | 96.34% |
| Accrued Liability | \$495,844,974 | \$507,984,848 |
| Termination Liability | \$276,396,525 | \$302,314,080 |
| Excess Upon Termination | \$144,157,648 | \$187,088,926 |
| Unfunded Liability | \$ 75,290,801 | \$ 18,581,842 |
| Annual Actuarial Requirement (ER & EE) | \$ 24,965,655 | \$ 20,171,065 |
| Expected Net Annual Actuarial Excess (Deficiency) | \$ 491,974 | \$ 5,429,849 |
| Required Employer Multiple | 1.60 | .99 |
| PV Credited Projected Benefits | \$447,815,793 | \$499,443,486 |
| INVESTMENT: Yield (on Invested Assets, including gains/losses) | 17.07% | 16.69% |
| Invested Assets (Book Value) | \$405,366,977 | \$473,166,911 |
| Invested Assets (Market Value) | \$442,248,537 | \$508,418,070 |
| MISCELLANEOUS: Salary Roll Average Salary | \$125,594,688 \$ 24,444 | \$128,601,816 \$ 26,549 |
| RL86 | 1 | LAB |

1986 Assets, Unfunded Liability, Accrued Liability \$ 600-\$ SNOT 500-ACC LIAB 400-UNF LIAB 300-200-ASSETS 100-0+ 1974 1972 1976 1978 1980 1982 1984 1986 YEAR ✓ ACC LIAB ✓ ASSETS

1986 Income and Payouts



The graph of assets, unfunded liability, and accrued liability illustrates the fund's position with respect to asset growth and accrued liability growth. Please note that the difference between the assets and the accrued liability is what is called unfunded 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 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.

A comprehensive study made in 1985 of 948 private pension plans indicated that the average interest assumption used was 7.6% and the average salary scale assumption was 6%. Only 22% of the plans used an interest rate higher than 7% while 39% used an interest rate lower than 7%. For salary scale, 11% used an assumption higher than 6% while 67% used an assumption lower than 6%. most common assumptions were 7% interest and 5% salary. We also have made a study of large public employee pension plans and found that the actuarial assumptions used for the rate of interest and rate of salary increase were somewhat higher. These ranged from 7% to 8% for interest and from 5.5% to 7% The Greenwich Research Associates report to participants Public The average Pension Funds 1984, surveys state and municipal pension plans. plan surveyed is 55.5% funded (based on projected pensions). The average actuarial interest rate of return assumption is 6.9% and the average salary increase assumption is 5.4%. The Greenwich report LARGE CORPORATE PENSIONS 1983 indicates an average interest assumption for funding of 7.1% and an average salary increase assumption of 5.5%. Based on these studies, it is our opinion that for this Fund, the past experience of investment earnings giving effect to locked-in interest rates and generally expected future interest earnings that a 7.5% future interest assumption would be a reasonable rate for valuation purposes and that 6% per year salary scale is reasonable. These assumptions take into consideration the generally accepted views on future salary increases for our national economy. They could be characterized as being middle of the road.

This valuation includes the costs of the HB2630 Amendments:

- (1) For widows of employees retiring or dying in service on or after January 23, 1987, there is no maximum dollar amount for the widow's annuity.
- (2) For employees retiring on or after January 1, 1987, the automatic post-retirement increase will begin on the first payment date following the first anniversary of retirement or after age 60 if later.

The liabilities and costs in this report are based in part on a 7.5% per year interest assumption and a 6% per year salary scale assumption. Last year, the interest rate assumption was 7% per year and the salary scale assumption was 7% per year. All other assumptions are the same as those used for the last report.

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 will 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 | 2,487 | \$121,368,237 |
| Annuity Increase | 2,289 | 23,398,980 |
| Future Widow Benefit | 1,515 | 11,087,393 |
| Lump Sum Death Benefit | 0 | 0 |
| Health Insurance Supplement | 1,478 | 2,590,215 |
| Widow Annuity | 1,226 | 21,434,815 |
| Widow Compensation | 2 | 2,194 |
| Total Retired Reserve | | \$179,881,834 |

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 RL86

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.

Descript Mains

| Benefit | Present Value of Benefits | Reserve |
|---|---------------------------|-----------------------|
| Employee Annuity | \$ 316,310,243 | |
| Annuity Increase | 67,037,788 | |
| Future Widow/Widower Benefit | 34,027,883 | |
| Lump Sum Death Benefit | 0 | |
| Health Insurance Supplement | 2,659,345 | |
| Widow/Widower of Employees - Dying in service | 20,641,183 | |
| Widow/Widower Compensation - Duty Death | 0 | |
| Miscellaneous | 113,115,393 | |
| Total Active | \$ 553,791,835 | |
| Total Active and Retired Present Value of Benefits | \$ 733,673,669 | |
| Less Present Value of Future Normal Costs | | <u>\$ 225,688,821</u> |
| Net Active Reserve | | 328,103,014 |
| Net Active Reserve & Retired | | 507,984,848 |
| Less Present Assets | | 489,403,006 |
| Unfunded Liability | | \$ 18,581,842 |

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." 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 for amortization of the unfunded liability on some reasonable basis.

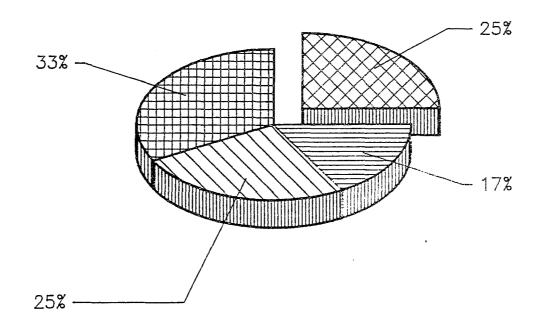
| Present Value of | | | % of Total |
|---|---------|---|----------------------------------|
| Present Assets Future Employee contributions Future Employer contributions Deficiency | \$ (| 489,403,006 151,616,204 199,405,632 106,751,173) | 67% 20 27 (<u>14</u>) |
| TOTAL | \$ | 733,673,669 | 100% |

| Present Value of | | Actuarial Assets | % of Total | | Actuarial Liabilities | % of Total |
|---|-------------|---------------------|---------------|----|----------------------------|---------------|
| Benefits Retired lives Active lives | | | | \$ | 179,881,834 553,791,835 | 25% 75% |
| Present Assets | \$ | 489,403,006 | 67% | | | |
| Normal Costs | | 225,688,821 | 30% | | | |
| Unfunded Liability | | 18,581,842 | 3% | - | | |
| Total | \$ | 733,673,669 | 100% | \$ | 733,673,669 | 100% |

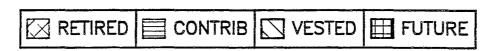
Following are pie charts that illustrate

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

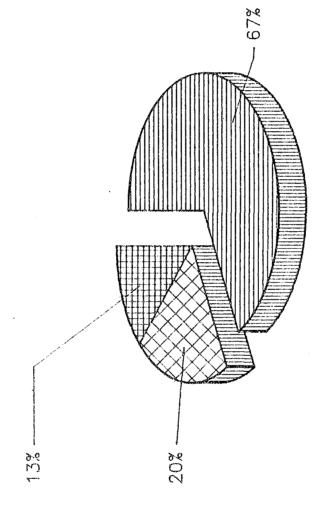
1986 Actuarial Present Value of Benefits

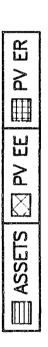






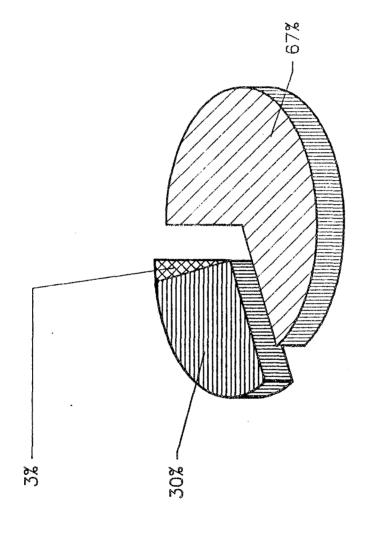
1986 Actuarial Assets

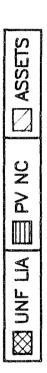






1986 Actuarial Cost Method



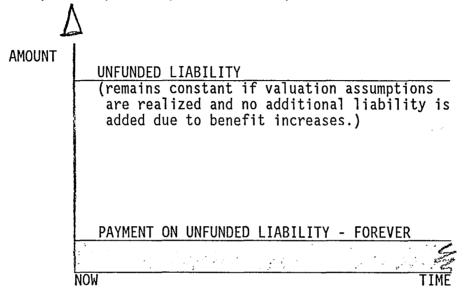




THREE METHODS OF FINANCING THE UNFUNDED LIABILITY

1. Normal Cost-Plus-Interest Method. This 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 under "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.

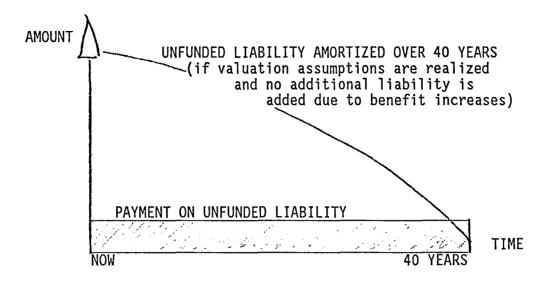
The normal cost-plus-interest-only method of funding is that recommended by the Illinois Public Employees Pension Laws Commission. It was also the minimum required for private pension plans for IRS qualification before ERISA.



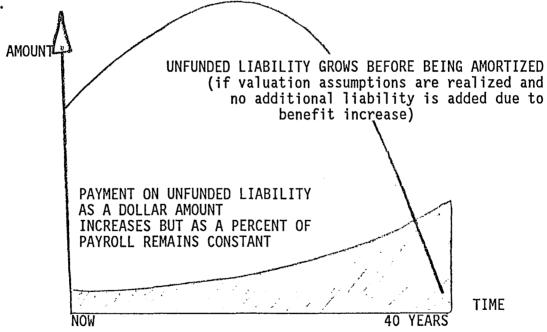
2. Normal Cost-Plus-40-Year-Amortization Method. ERISA now requires that initial unfunded liability existing on January 1, 1976, be amortized over a 40 year period. We have calculated the cost of amortizing the existing unfunded liability.

The normal cost-plus-interest method and the normal cost-plus-40-year-amortization method both 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. These three methods meet the requirements set

forth in Illinois Revised Statutes, Chapter 108-1/2, Article 22-501.10. The results are given in the following table:

| | Required 1987 Tax Levy | Ultimate Required Multiple | Unfunded Liability Will: | Portion Required for Amortization of Unfunded Liability |
|---|------------------------------|----------------------------------|---|---|
| <pre>1. Normal Cost + Interest Only</pre> | \$ 9,624,907 | .99 | Remain constant at \$18,581,842* | \$1,344,144 |
| 2. ERISA: Normal Cost + 40-Year Amortization | \$ 9,707,055 | 1.00 | Decrease to \$0* | \$1,423,006 |
| 3. Normal Cost + 40 Year Level % of Payroll Increasing 4% a Year (Inflation Only) | \$ 9,115,037 | .94 | Increase to \$26,933,673 in 22 years and decrease thereafter* | \$854,668 in 1987 increases to \$4,090,741 in 40 Years |
| 4. Present Law (Includes Park) | \$15,281,000 | 1.37 | | |

^{*} Assuming all valuation assumptions are realized and no future benefit liberalization.

The preceding comparative table indicates the need to take into consideration in the funding policy future annual costs expressed both as a level annual dollar amount and as a level annual percent of payroll.

The level-annual-percent-of-payroll method results in substantially increasing costs and contributions in future years, especially at the end of a funding period.

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 1987 should be \$9,624,907, which amount includes a 4% reserve for loss on collection. This amount is based on an annual payroll (as of December 31, 1986) of \$128,601,816 and an active membership of 4,844 persons. The detail is shown in the table that follows.

DETAIL OF ANNUAL CITY CONTRIBUTION:

| | | Amount | ercent of Salary | Dollars Per Active Member |
|-----|---|---------------|---------------------|---------------------------------|
| 1. | Normal Cost - for Current Service | \$18,826,921 | 14.64% | \$3,887 |
| 2. | 7.5% Interest on Unfunded Liability | \$ 1,344,144 | 1.05% | \$ 277 |
| 3. | Total Actuarial Requirement (1)+(2) | \$20,171,065 | <u>15.68%</u> | \$4,164 |
| 4. | Employee Contributions | \$10,931,154 | 8.50% | \$2,257 |
| 5. | Employer Requirement (3-4) | \$ 9,239,911 | 7.18% | \$1,907 |
| 6. | Expected Net Employer Contribution from 1987 Tax Levy of \$15,281,000 after a 4% Loss | \$14,669,760 | 11.41% | \$3,028 |
| 7. | Expected Net Annual Deficiency | \$(5,429,849) | (4.22%) | (\$1,121) |
| 8. | Tax Levy Required (Assume 4% Loss) | \$ 9,624,907 | | |
| 9. | Required Multiple | .99 | | |
| 10. | Present Authorized Multiple | 1.37 | | |

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.

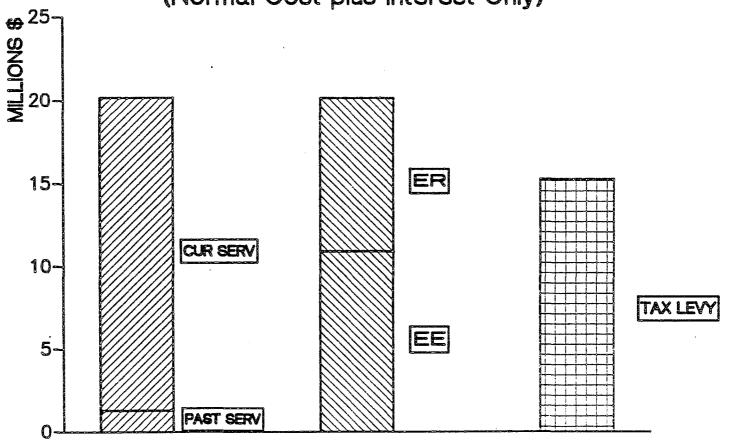
The above table indicates that the Fund is more than meeting the annual actuarial cost on the normal cost plus interest basis.

The following 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).

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1986 Annual Actuarial Cost

(Normal Cost plus Interest Only)



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☐ COST ☐ CONTR FUND ☐ TAX LEVY

| DETAIL OF NORMAL COST | % Salary | \$ Per Active Member |
|--|---|--|
| Retirement Annuity Retirement Annuity Increase Postretirement Spouse Annuity Spouse Annuity for Death in Service Health Insurance Child's Annuity Ordinary Disability Duty Disability Refunds Widows'/Widowers' Compensation Expense of Administration | 6.23% 1.33 0.69 0.60 0.03 0.07 1.00 0.80 2.24 0.00 1.56 | \$1,656 351 181 160 8 20 265 213 596 0 414 |
| Reciprocal Benefits | <u>0.09</u> 14.64% | 23 \$3,887 |

CHANGE IN THE UNFUNDED LIABILITY

The total unfunded liability as of December 31, 1986, is \$18,581,842. As of December 31, 1985, it was \$75,290,801.

Detail of Change in Unfunded Liability

| 1. | Increase in Salaries under 7% Assumed | \$ 5,125,287 | Increase |
|-----|---|----------------|----------|
| 2. | Investment Yield over 7% Assumed | (38,156,363) | Decrease |
| 3. | Excess in Annual Contribution: 1986 Total Actuarial Requirement\$24,965,655 Less Employer Net to Fund 1986 Tax Levy | (1,490,690) | Decrease |
| 4. | Change in Assumptions | (50,944,726) | Decrease |
| 5. | Amendments | 15,144,096 | Increase |
| 6. | Miscellaneous Actuarial Changes | 13,613,438 | Increase |
| Net | Change in Unfunded Liability | (\$56,708,958) | Decrease |

FUNDED RATIO:

The ratio of assets to liabilities is 96.34% as of December 31, 1986, and was 84.82% as of December 31, 1985. This ratio represents the extent to which present and future benefit promises are secured by present assets. The funded ratio increased because assets increased 16.4% while liabilities increased 2.4%.

RATIO OF ACTIVE EMPLOYEES TO ANNUITANTS and BENEFICIARIES:

The ratio of active employees to annuitants and beneficiaries is 1.19 as of December 31, 1986, and was 1.30 as of December 31, 1985. This ratio illustrates the relationship between the contributors and the beneficiaries.

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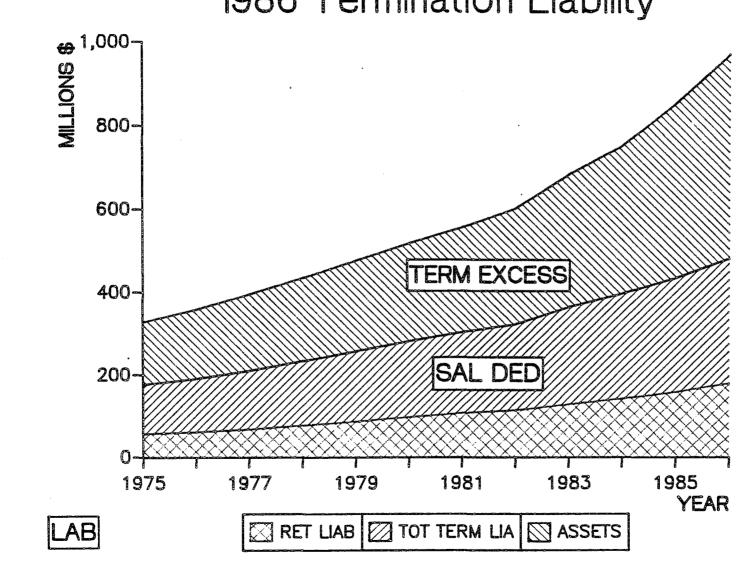
TERMINATION LIABILITY

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.

| | Last Year | This Year |
|--|--------------------------------|--------------------------------|
| Liability for Retired Annuitants and Widows/Widowers Spouses of Annuitants | \$158,514,452 | \$179,881,834 |
| Salary Deductions Contributed by Active Fund Members | \$117,882,073 | \$122,432,246 |
| Total Assets at Book Value | \$276,396,525 \$420,554,173 | \$302,314,080 \$489,403,006 |
| Excess Upon Termination | \$144,157,648 | \$187,088,926 |
| Available Assets for Actives (Retirees Fully Funded) | \$262,039,721 | \$309,521,172 |
| Available Per Active Employee | \$ 51,000 | \$ 63,898 |
| Refundable per Active Employee | \$ 22,943 | \$ 25,275 |
| Ratio of Available to Refundable | 222% | 253% |

The following chart illustrates the remaining assets after terminating the plan.

1986 Termination Liability



VESTED LIABILITY

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 used in previous reports because the value of a retirement annuity for an eligible employee is greater than the amount of his or her accumulated salary deductions.

| | Last Year | This Year |
|---|---------------|----------------|
| Liability for Retired Annuitants and Widows/Widowers and Spouses of Annuitants | \$158,514,452 | \$179,881,834 |
| Value of Active Employees Eligible To RetireAccumulated Salary Deductions of Active Employees Eligible for Refund | \$227,353,826 | \$234,844,382 |
| and not Annuity | \$ 66,873,899 | \$ 70,442,970 |
| Active Vested Liability | \$294,227,725 | \$305,287,352 |
| Total Vested Liability | \$452,742,177 | \$485,169,186 |
| Assets at Book Value | \$420,554,173 | \$489,403,006 |
| Unfunded Vested Liability | \$ 32,188,004 | (\$ 4,233,820) |
| Vested Funded Ratio | 92.89% | 100.87% |

The average amount of assets required per active employee to provide for vested benefits as of the valuation date is \$63,024. 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 \$67,734.

GASB DISCLOSURE

The Governmental Accounting Standards Board (GASB) Statement No. 5 - Disclosure of Pension Information by Public Employee Retirement Systems and State and Local Governmental Employers will require disclosure of the actuarial present value of credited projected benefits for reports issued for fical years beginning after December 15, 1986.

The actuarial present value (APV) of credited projected benefits must take 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 nonvested current employees is possible, due to the different vesting schedules of the defined benefit and defined contribution portions of the benefits.

| | Last Year | This Year |
|--|--------------------------------|--------------------------------|
| APV of Credited Projected Benefits Accumulated contributions (with interest) Payable to retirees and beneficiaries Payable to vested and nonvested | \$117,882,073 \$158,514,452 | \$122,432,246 \$179,881,834 |
| current employees | \$171,419,268 | \$197,129,406 |
| Total APV | \$447,815,793 | \$499,443,486 |
| Net assets available for benefits (book value) | <u>\$420,554,173</u> | \$489,403,006 |
| Unfunded APV of credited projected benefits | \$ 27,261,620 | \$ 10,040,480 |
| Percentage funded | 93.91% | 97.99% |
| Unfunded APV as % of Payroll | 21.7% | 7.80% |

THE FUTURE

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 \$2.55. 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 7.5% used for valuation purposes. The extent of the reduction will depend on the relative amounts of these two items.

The alternative funding methods indicate the imperative need to monitor Fund income if future Fund obligations are to be met.

The disadvantage of funding methods that use the level percent of payroll funding of past service is that the unfunded liability will continually increase if salaries continue at the predicted rates. Subject to projections of contributions and disbursements for potential cost flow problems the level percent of payroll method would appear to provide a long-range level funding method on a minimum funding basis whether for interest only or over a 40 year period.

Respectfully submitted,

Donald F. Campbell, F.C.A., M.A.A.A.

clouded F. Campbell

Enrolled Actuary # 1248

Donald P. Campbell, F.S.A., M.C.A., M.A.A.A.

Enrolled Actuary #1498

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ACTUARIAL BALANCE SHEET

AS OF

DECEMBER 31, 1986

ASSETS

AND

LIABILITIES

LIABILITIES AND FUND BALANCES

ACTUARIAL BALANCE SHEET AS OF DECEMBER 31, 1986

| ANNUITY PAYMENT FUND ACCOUNT (Based on 4% Amer. Exp. & 3% Comb.) Employee Annuitants Employee Annuities Fixed Spouse Annuitants Spouses' Annuities Fixed Total Annuity Payment Fund | \$ 54,294,205.68 11,428,992.60 19,696,871.52 16,136,185.18 | \$101,556,254.98 |
|---|---|--------------------|
| SALARY DEDUCTION FUND ACCOUNT Employees Spouses of Employees Total Salary Deduction Fund | \$ 86,365,679.32 19,533,270.71 | \$105,898,950.03 |
| CITY CONTRIBUTION FUND ACCOUNT Employees Spouses of Employees Supplemental Annuities Total City Contribution Fund | \$ 80,760,584.96 26,633,930.39 3,898.16 | \$107,398,413.51 |
| OTHER RESERVES Supplementary Payment Reserve Annuity Payment Fund Account Total Other Reserves | \$ 68,836.51 3,467,167.43 | \$ 3,536,003.94 |
| PRIOR SERVICE FUND ACCOUNT (Based on 4% Amer. Exp. & 3% Comb.) Employee Annuitants Spouse Annuitants Spouses' Annuities Fixed Salary Deductions 3% Annuity Increase Estimated Excess Liability (Note 1) Total Prior Service Account | \$105,817,526.28 3,396,029.88 4,016,860.55 8,758,996.45 67,605,813.02 | \$189,595,226.18 |
| TOTAL LIABILITIES | | \$507,984,848.64 |
| Obligations of Fund for Prior Service Li | abilities (Note 1) | (\$ 18,581,842.62) |
| TOTAL NET LIABILITIES AND FUND BALANCES | | \$489,403,006.02 |

Note 1 - The letter of transmittal attached hereto sets forth the manner in which this liability was determined.

INCOME

YEAR 1986

INCOME

AND

EXPENDITURES

EXPENDITURES FOR YEAR 1986

| TOTAL INCOME FORWARDED | | \$92,846,919.32 |
|---|--|-----------------------------|
| ANNUITIES AND BENEFITS PAID Employees' Annuities Spouses' Annuities Compensation Annuities Children's Annuities Ordinary Disability Duty Disability Supplementary Payments Annuitant Health Insurance | \$15,582,978.55 2,571,348.15 0.00 95,080.00 1,285,078.68 1,032,647.41 35,418.84 283,945.00 | |
| Total Benefits Paid | \$20,886,496.63 | |
| Reciprocal Act Reimbursements Net Benefits Paid | (<u>5,024.34</u>) \$20,88 | 31,472.29 |
| EXPENSE OF ADMINISTRATION Salaries Regular Employees Blue Cross & Blue Shield Services Legal Expense Medical Expense Actuarial & Data Processing Auditing (1984 and 1985) Other Accounting Payroll Tax Services Payroll Processing Office Supplies and Equipment Printing and Stationery Postage Rent & Electricity | \$ 237,356.44 19,014.00 17,500.00 18,300.00 203,073.66 35,700.00 7,300.00 4,500.00 38,837.07 26,992.14 27,124.87 18,692.50 65,489.41 | |
| Election Expense Telephone & Telegraph Conference & Association Exp. Insurance Premiums Microfilming Temporary Help Miscellaneous Total Expenses | 743.00 1,512.40 7,398.00 374.75 5,929.98 150.00 8,115.85 | 4,104.07 |
| REFUNDS TOTAL EXPENDITURES | 2,886 | 5,316.62 \$24,511,892.98 |
| EXCESS INCOME OVER EXPENDITURES | | \$68,335,026.34 |
| Net Change in Reserve for Loss on Colard Taxes Receivable for Prior Year | | 513,806.88 |
| INCREASE IN NET ASSETS FOR YEAR | | \$68,848,833.22 |
| RL86 | 28 | LAB |

COMPARATIVE ANALYSIS

YEAR 1986

ASSETS

AND

LIABILITIES

COMPARATIVE ANALYSIS

LIABILITIES AND FUND BALANCES

| LIABILITY RESERVES ANNUITY PAYMENT FUND | 01/01/1986 | 12/31/1986 | Increase (Decrease) |
|---|--|--|--|
| Employee Annuitants Emp. Annuities Fixed Spouse Annuitants Spouses' Annuities Fixed | \$ 46,611,331 12,958,142 18,718,734 13,975,679 | \$ 54,294,206 11,428,993 19,696,871 16,136,185 | \$ 7,682,875 (1,529,149) 978,137 |
| Total | \$ 92,263,886 | \$101,556,255 | 9,292,369 |
| SALARY DEDUCTION FUND ACCOUNT Employees Spouses of Employees | \$ 83,877,450 18,864,900 | \$ 86,365,679 19,533,271 | \$ 2,488,229 668,371 |
| Total | \$102,742,350 | \$105,898,950 | \$ 3,156,600 |
| CITY CONT. FUND ACCOUNT Employees Spouses of Employees Supplemental Annuities | \$ 78,643,454 25,857,701 3,737 | \$ 80,760,585 26,633,930 3,898 | \$ 2,117,131 776,229 161 |
| Total | \$104,504,892 | \$107,398,413 | \$ 2,893,521 |
| OTHER RESERVES Supplemental Pymt. Res. Annuity Fund Account | \$ 69,255 470,226 | \$ 68,837 3,467,167 | (\$ 418) 2,996,941 |
| Total | \$ 539,481 | \$ 3,536,004 | \$ 2,996,523 |
| PRIOR SERVICE FUND ACCOUNT Employee Annuitants Spouse Annuitants Spouses' Annuities Fixed Sal. Ded. 2% Annuity Estimated Excess Liability | \$ 85,158,672 3,273,524 3,338,897 8,311,931 95,711,341 | \$105,817,526 3,396,030 4,016,861 8,758,996 67,605,813 | \$20,658,854 122,506 677,964 447,065 (<u>28,105,528</u>) |
| Total | \$195,794,365 | \$189,595,226 | (\$ 6,199,139) |
| TOTAL LIABILITIES | \$495,844,974 | \$507,984,848 | \$12,139,874 |
| UNFUNDED OBLIGATIONS | (\$ 75,290,801) | (\$ 18,581,842) | \$56,708,959 |
| TOTAL NET LIABILITIES | \$420,554,173 | \$489,403,006 | \$68,848,833 |

TAXES RECEIVABLE

DECEMBER 31, 1986

| Year | Uncollected Taxes 12-31-86 | Estimate for Loss 12-31-85 | Additional Est. Setup 12-31-86 | Total Est. for loss 12-31-86 | Taxes Collectible 12-31-86 |
|--------------------------------------|--|--|---|---|---|
| CITY | | | | | |
| 1982 1983 1984 1985 1986 | \$ 333,084.32 341,096.72 540,033.17 673,931.40 12,630,000.00 | (\$ 327,088.00) (334,275.00) (539,046.00) (665,900.00) | \$ 419.94 32,305.00 185,693.00 294,461.00 (<u>631,500.00</u>) | (\$ 326,668.06) (301,970.00) (353,353.00) (371,439.00) (631,500.00) | \$ 6,416.26 39,126.72 186,680.17 302,492.40 11,998,500.00 |
| | <u>\$14,518,145.61</u> | <u>(\$1,866,309.00)</u> | <u>(\$118,621.06)</u> | (\$1,984,930.06) | \$12,533,215.55 |
| 1986 | \$ 2,743,000.00 \$17,261,145.61 | Replacement tax | ∢ due from Stat | te | \$ 2,743,000.00 \$15,276,215.55 |
| PARK | DISTRICT | | | | |
| 1982 1983 1984 1985 1986 | \$ 672.84 702.28 994.21 1,665.79 25,000.00 | (\$ 689.03) (878.95) (1,600.00) (1,450.00) | \$ 16.19 176.67 605.79 0.00 (| (\$ 672.84) (702.28) (994.21) (1,450.00) (1,250.00) | \$ 0.00 0 00 0.00 215.79 23,750.00 |
| | \$ 29,035.12 | (<u>\$ 4,617.98</u>) | (<u>\$ 451.35</u>) | (\$ 5,069.33) | \$ 23,965.79 |

TOTAL

\$17,290,180.73 (\$1,870,926.98) (\$119,072.41) (\$1,989,999.39) \$15,300,181.34

Note: The loss on the 1986 tax levy was 5%. Due to the 100% collection of the personal property replacement tax, the overall loss is 4%. The statutory requirement of \$15,398,000 is the sum of \$12,630,000 plus \$25,000 plus \$2,743,000.

MEMBERSHIP STATISTICS

YEAR 1986

| | | Number at Beginning of Year | Increases | Decreases | Number At End of Year |
|----|---|-----------------------------------|-------------|------------|-----------------------------|
| Α. | Changes in Active Participants | | | | |
| | Male | 4,740 | 147 | 401 | 4,486 |
| | Female | 398 | 40 | 80 | 358 |
| | Total | <u>5,138</u> | <u>187</u> | <u>481</u> | 4,844 |
| В. | Changes in Annuitants & Beneficiari | es | | | |
| | Employee Annuitants | 2,343 | 241 | 178 | 2,406 |
| | Spouse Annuitants | 1,191 | 80 | 66 | 1,205 |
| | Children's Annuities | 104 | 9 | 20 | 93 |
| | Ordinary Disability Benefits | 108 | 117 | 106 | 119 |
| | Duty Disability Benefits | 110 | 687 | 642 | 155 |
| | Reciprocal: Employee Spouse | 76 19 | 7 3 | 2 1 | 81 21 |
| | Widow/WidowerCompensation Annuities | 2 | 0 | 0 | 2 |
| | Total | 3,953 | <u>1144</u> | 1015 | 4,082 |
| C. | Ratio of Active Participants to Annuitants & Beneficiaries | <u>1.30</u> | | | <u>1.19</u> |

SALARY AND AGE STATISTICS

YEAR 1986

Ages and Salaries as of December 31, 1986

Male

| Ages | Number | Annual Salaries | Average Annual Salaries |
|---|---|---|--|
| Under 20 20 - 24 25 - 29 30 - 34 35 - 39 40 - 44 45 - 49 50 - 54 55 - 59 60 - 64 65 - 69 70 & over Without Record | 1 115 465 712 552 433 491 453 559 415 179 62 49 | \$ 29,544 3,001,848 12,424,968 19,467,240 15,411,288 12,049,104 13,756,920 12,221,064 15,369,984 11,383,128 4,866,264 1,753,968 1,296,912 | \$29,544 26,103 26,721 27,342 27,919 27,827 28,019 26,978 27,496 27,430 27,186 28,290 26,468 |
| Total | <u>4486</u> | \$123,032,232 | <u>\$27,426</u> |
| | Female | | |
| 20 - 24 25 - 29 30 - 34 35 - 39 40 - 44 45 - 49 50 - 54 55 - 59 60 - 64 65 - 69 70 & over Without Record | 9 21 11 8 10 17 35 68 106 64 6 | \$ 201,216 487,800 279,768 190,560 215,640 348,528 550,248 946,512 1,377,072 806,328 76,560 89,352 \$ 5,569,584 | \$22,358 23,229 25,434 23,820 21,564 20,502 15,722 13,920 12,992 12,599 12,760 29,784 |
| TOTAL MALE AND FEMALE | <u>4844</u> | \$128,601,816 | <u>\$26,549</u> |
| | | | · · · · · · · · · · · · · · · · · · · |

SALARY AND AGE STATISTICS

YEAR 1986

AGES AT ENTRANCE

| | 1 | MALE | FEMA | FEMALE | |
|--|---|--|---|--|--|
| | Number | Annual Salaries | Number | Annual Salaries | |
| Under 25 25 - 29 30 - 34 35 - 39 40 - 44 45 - 49 50 - 54 55 - 59 60 & over W/O record | 1,587 928 629 404 402 254 126 85 22 49 | \$ 44,620,152 25,504,344 16,913,832 11,069,304 10,699,560 6,752,496 3,248,304 2,304,480 622,848 1,296,912 | 25 41 52 97 92 36 8 1 3 | \$ 536,568 770,760 885,600 1,361,976 1,256,064 499,176 105,288 17,664 47,136 89,352 | |
| Totals | 4,486 | \$123,032,232 | <u>358</u> | \$5,569,584 | |
| Average Annual Salar Average Attained Age Average Service Average Age at Entra | e | \$27,426 44.5 14.0 30.5 | | \$15,557 55.3 18.1 37.2 | |

AGE AND SERVICE DISTRIBUTION

YEAR 1986

Average Salaries by Age and Service Grouping (Showing the Number of Members and the Average Salaries of Males and Females Combined)

| Ages | Under 1 | 1-4 | 5-9 | Year 10-14 | rs of Se 15-19 | rvice 20-24 | 25-29 | 30-34 | 35+ | Total |
|-----------------------------|--------------------|--------------|---------------|---------------|-------------------|----------------|--------------|--------------|--------------|-------------------------------|
| 00-20 | 1 29544 | | | | | | | | | 1 29544 |
| 20-24 | 9 28989 | 56 25006 | 59 26132 | | | | | | | 124 25831 |
| 25-29 | 11 27190 | 104 25350 | 327 26517 | | | | | | | 486 26569 |
| 30-34 | 15 27667 | 88 27702 | 335 26443 | 274 28158 | 11 29143 | | | | | 723 27313 |
| 35-39 | 7 23966 | 56 25615 | 205 26928 | 181 29030 | 99 28886 | 12 30438 | | | | 560 27860 |
| 40-44 | 9 25603 | 35 26451 | 117 26098 | 108 27365 | 82 29387 | 80 29267 | 12 29044 | | | 443 27686 |
| 45-49 | 4 23130 | 22 25319 | 123 25365 | 86 27509 | 82 28462 | 126 28003 | 63 32574 | 2 27936 | | 508 27767 |
| 50-54 | 2 26688 | 24 24735 | 89 25693 | 75 27007 | 72 26425 | 107 24851 | 71 26736 | 48 28170 | | 488 26171 |
| 55-59 | | 15 25659 | 71 26280 | 81 26020 | 73 25609 | 124 22607 | 69 25618 | 136 27619 | 58 30373 | |
| 60-64 | 1 23832 | 14 24819 | 43 25850 | 57 27117 | 81 25733 | 141 20077 | 55 23204 | 73 26551 | 56 28608 | |
| 65-69 | | 1 29544 | 22 28043 | 29 25982 | 34 24152 | 76 17694 | 25 28445 | | 20 25445 | |
| 70+ | | 2 20880 | 4 28284 | 13 27786 | 10 27516 | 11 20869 | 10 27878 | 15 29979 | 3 27072 | 68 26920 |
| W/O | 12 <u>27652</u> | <u>37224</u> | 20 24612 | 11 28132 | 5 <u>27384</u> | 2 29628 | | 1 19344 | | 52 <u>26659</u> |
| No. Sal. Age Servi | 71 26821 ce | 418 25900 | 1415 26326 | 959 27842 | 549 27347 | 679 23802 | 305 27321 | 311 27196 | 137 28860 | 4844 26549 45.3 14.3 |

ANNUITANTS CLASSIFIED BY AGE AS OF DECEMBER 31, 1986

| Maje Annual Payments Female Annual Payments Female Annual Payments Payments Annual Payments Pay | | | Re | etirement Annu Average | ities | | Average |
|--|--|---|--|---|---|--|--|
| 25 - 29 30 - 34 | Ages | | | Annua 1 | | | Annual |
| 30 - 34 | | | \$ | \$ | | \$ | \$ |
| 50 - 54 3 3 5,036,16 14,678.72 48 681,898.80 14,206,23 4 40,188.24 10,047.06 60 - 64 234 2,697,155.88 11,526.31 38 167,498.40 4,407.85 65 - 69 448 4,540,245.48 10,134.48 154 656,793.96 4,264.90 70 - 74 428 3,416,527.80 7,982.54 241 837,022.20 3,473.12 2,406.19 80 - 84 132 748,386.72 5,669.60 132 313,212.72 2,372.82 85 - 89 54 224,338.92 4,154.42 69 125,915.76 1,824.89 90 - 94 29 116,571.48 4,019.71 27 49,020.84 1,815.59 95 - 99 2 1,417.20 708.60 2 3,671.04 1,835.52 100-105 1 1,854.72 1,85 | 30 - 34 35 - 39 40 - 44 | 3 | 3,000.00 | 1,000.00 | | | |
| Average Age Spouses Annuities (Not Including Compensation) Ages Male Annual Payments Annual Payments Payments 20 - 24 | 50 - 54 55 - 59 60 - 64 65 - 69 70 - 74 75 - 79 80 - 84 85 - 89 90 - 94 95 - 99 | 48 234 448 428 258 132 54 29 | 681,898.80 2,697,155.88 4,540,245.48 3,416,527.80 1,677,040.20 748,386.72 224,338.92 116,571.48 | 14,206.23 11,526.31 10,134.48 7,982.54 6,500.16 5,669.60 4,154.42 4,019.71 | 38 154 241 178 132 69 27 2 | 167,498.40 656,793.96 837,022.20 428,301.60 313,212.72 125,915.76 49,020.84 3,671.04 | 4,407.85 4,264.90 3,473.12 2,406.19 2,372.82 1,824.87 1,815.59 1,835.52 |
| Male Annual Average Annual Payments Payment | Totals | <u>1641</u> | \$14,114,018.64 | \$ 8,600.86 | <u>846</u> | \$2,623,479.48 | \$ 3,101.04 |
| Ages Male Number Annual Payments Annual Payments Female Number Annual Payments Annual Payments 20 - 24 | Average A Spouses A | lge Innuities | (Not Including | | 1) | | |
| 25 - 29 30 - 34 30 - 34 40 - 44 40 - 44 50 - 54 50 - 54 50 - 64 50 - 64 50 - 64 50 - 64 50 - 64 50 - 7 | Ages | | | Annua 1 | | | Annua 1 |
| 100-105 | 25 - 29 30 - 34 35 - 39 40 - 44 45 - 49 50 - 54 55 - 59 60 - 64 65 - 69 70 - 74 75 - 79 80 - 84 85 - 89 90 - 94 | 2 1 9 3 | 1,200.00 3,593.64 1,200.00 11,124.12 3,600.00 | 1,200.00 1,796.82 1,200.00 1,236.01 1,200.00 | 1 4 3 16 26 42 84 165 244 259 187 94 60 21 | 1,200.00 4,800.00 5,586.12 30,252.12 52,817.52 114,945.60 191,814.12 432,863.52 606,374.28 534,252.12 367,877.28 132,476.64 82,682.40 24,377.16 | 1,200.00 1,200.00 1,862.04 1,890.76 2,031.44 2,736.80 2,283.50 2,623.42 2,485.14 2,062.75 1,967.26 1,409.33 1,378.04 1,160.82 |
| Average Age <u>71</u> <u>69</u> | | 17 | \$21 017 76 | t 1 200 20 | 1200 | 2 500 504 40 | ¢2 141 02 |
| | | | ΨC 1, 3 1/./ 0 | | 1703 | p2,300,304.4U | |
| | | • | | | | | |

NEW ANNUITIES GRANTED

DURING 1986

| | An | Male nuitants | | Female nuitants | Wi D | Widows/ dowers of eceased mployees | Wie De | Widows/ dowers of eceased nuitants |
|--|-----|------------------|-----|--------------------|---------|---|-----------|---|
| Number Retired | | 188 | | 53 | | 29 | | 51 |
| Average Attained Age | | 64.7 | | 65.6 | | 58.2 | | 71.5 |
| Average Length of Service | | 27.9 | | 23.7 | | 20.0 | | N/A |
| Average Annual Salary (4 out of 10) | \$ | 27,336 | \$ | 13,296 | \$ | 24,564 | | N/A |
| Average Annual Final Salary | \$ | 25,308 | \$ | 12,588 | | N/A | | N/A |
| Total Annual Annuity | \$ | 2,691,936 | \$ | 316,972 | \$ | 104,044 | \$ | 137,371 |
| Average Annual Annuity | \$ | 14,319 | \$ | 5,981 | \$ | 3,588 | \$ | 2,694 |
| Total Liability (7% UP-1984) | \$2 | 29,693,170 | \$3 | ,744,414 | \$1 | ,046,273 | \$1 | ,006,213 |
| Average Liability | \$ | 157,942 | \$ | 70,649 | \$ | 36,078 | \$ | 19,730 |
| Total Cost for Income Tax Purposes | \$ | 3,780,872 | \$ | 463,116 | \$ | 405,213 | | N/A |
| Average Cost | \$ | 20,111 | \$ | 8,738 | \$ | 13,973 | | N/A |
| Expected Future lifetime (yrs.) | | 15.35 | | 18.14 | | 23.55 | | 14.05 |
| Payback Period (yrs.) | | 1.40 | | 1.46 | | 3.89 | | N/A |
| Replacement ratio | | 52.4% | | 45.0% | | N/A | | N/A |
| Liability divided by Salary | | 5.78 | | 5.31 | | N/A | | N/A |

HISTORY 1965 to 1986

HISTORY OF AVERAGE ANNUAL SALARIES ENTIRE FUND

| Year | Total Members in Ser- vice(1) | Percentage Increase Preceding Year | Total Salaries | Percentage Increase Preceding Year | Average Annual Salaries | Percentage Increase of Preceding Year | CPI Ave Chicago |
|-------|--|--|---|---|--|--|---|
| for t | the Last | 0.9% 0.7 1.3 (2.6) (1.4) (7.2) (4.9) 1.6 (3.1) (1.7) 5.9 (3.1) (0.9) (2.1) (6.6) (5.3) (1.4) 3.6 (9.1) (1.5) (3.8) (5.7) ase (Decrea 5 | \$ 45,872,832 47,598,552 52,268,304 56,165,136 60,523,296 62,916,768 66,142,320 69,950,692 73,108,848 78,526,728 89,276,280 90,487,008 98,029,296 103,399,152 105,825,264 108,854,496 118,054,512 134,293,920 131,355,840 131,327,856 125,594,688 (3128,601,816 | 3.2% 3.8 9.8 7.5 7.8 4.0 5.1 5.8 4.5 7.4 13.7 1.4 8.3 5.5 2.9 8.5 13.8 (2.2) (0) 3) (4.4) 2.4 | \$ 5,780 5,954 6,451 7,118 7,782 8,714 9,636 10,035 10,828 11,830 12,696 13,285 14,519 15,636 17,138 18,617 20,478 22,495 24,218 24,589 24,444 26,549 | 2.3% 3.0 8.3 10.3 9.3 12.0 10.6 4.1 7.9 9.3 7.3 4.6 9.3 7.7 9.6 8.6 10.0 9.8 7.7 1.5 (.6) 8.6 (2) | 1.4% 2.9 2.7 4.3 5.6 3.9 6.2 10.7 7.9 4.8 6.4 8.6 12.5 14.4 9.8 4.0 3.8 2.0 |
| Years | 5 | (3.3)% | | 1.9% | | 5.4% | 4.1% |

⁽¹⁾ Includes those members who were on disability.

⁽²⁾ Average annual increase in salary 1965-1986, about 7.5% compounded. The average increase in the Chicago CPI for the same period is about 5.4%.

⁽³⁾ Total salaries include the 7% Board of Education "pick up" for the first time due to a change in the law.

HISTORY OF TOTAL ANNUITIES

Employee Annuitants (Male and Female)

| Year End | Number of Annuitants | Total Annuities | Average Annuities |
|--|---|---|--|
| 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 | 1,593 1,651 1,675 1,724 1,777 1,831 1,907 2,009 2,087 2,188 2,227 2,379 2,420 2,419 2,419 2,469 2,469 2,419 2,487 | \$2,495,396 2,779,061 2,927,594 3,373,308 3,781,854 4,331,609 4,887,747 5,633,971 6,287,310 7,162,866 7,976,776 8,958,700 9,950,080 10,725,716 11,550,456 13,123,860 14,194,488 16,737,498 | \$1,566 1,683 1,748 1,957 2,128 2,366 2,563 2,804 3,013 3,274 3,582 3,766 4,112 4,434 4,775 5,315 5,868 6,730 |
| | | e Annuitants ding Compensation) | • |
| 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 | 909 928 921 932 967 997 1,022 1,041 1,059 1,075 1,111 1,154 1,153 1,174 1,211 1,228 1,210 1,226 | \$ 640,079 673,352 711,618 775,469 860,410 959,632 1,053,816 1,142,064 1,267,194 1,381,263 1,523,370 1,689,076 1,768,868 1,927,743 2,128,737 2,304,994 2,462,519 2,610,422 | \$ 704 726 773 832 890 963 1,031 1,097 1,197 1,285 1,371 1,464 1,534 1,642 1,758 1,877 2,035 2,129 |

HISTORY OF INVESTMENT YIELDS Nonrecurring Gains and Losses Are Excluded from Income

| | | Investment Yield |
|-------------------------|------------------|------------------|
| Year | Investment Yield | on |
| End | on Total Assets | Invested Assets |
| 1971 | 4.75% | 4.99% |
| 1972 | 5.47 | 5.70 |
| 1973 | 5.76 | 6.03 |
| 1974 | 6.58 | 6.98 |
| 1975 | 7.25 | 7.73 |
| 1976 | 7.23 | 7.65 |
| 1977 | 7.01 | 7.35 |
| 1978 | 6.61 | 6.97 |
| 1979 | 7.38 | 7.82 |
| 1980 | 7.69 | 8.20 |
| 1981 | 8.46 | 9.11 |
| 1982 | 9.88 | 10.47 |
| 1983 | 9.37 (9.30)* | 9.79 (9.72)* |
| 1984 | 9.67 (9.58)* | 10.12(10.03)* |
| 1985 | 8.89 (8.72)* | 9.27(9.10)* |
| 1986 | 7.44 (7.14)* | 7.72(7.41)* |
| Average of Last 5 Years | 9.05%` | 9.47% |

Nonrecurring Gains and Losses Are Included in Income

| | | Investment Yield |
|-------------------------|------------------|------------------------|
| Year | Investment Yield | on |
| End | on Total Assets | Invested Assets |
| 1971 | 3.95% | 4.14% |
| 1972 | 4.79 | 5.00 |
| 1973 | 3.60 | 3.77 |
| 1974 | 3.55 | 3.76 |
| 1975 | 6.17 | 6.58 |
| 1976 | 6.98 | 7.39 |
| 1977 | 7.00 | 7.35 |
| 1978 | 5.34 | 5.62 |
| 1979 | 6.61 | 7.00 |
| 1980 | 5.66 | 6.03 |
| 1981 | 3.99 | 4.29 |
| 1982 | 7.64 | 8.09 |
| 1983 | 11.14 (11.07)* | 11.64 (11.57)* |
| 1984 | 8.88 (8.79)* | 9.30 (9.21)* |
| 1985 | 16.34 (16.17)* | 17.07 (16.89)* |
| 1986 | 16.06 (15.74)* | 16.69 (16.34)* |
| Average of Last 5 Years | 12.01% | 12.56% |

Notes: *Investment Income is net of investment expenses.

Yield = Investment Income

1/2 (Assets at beginning + end) - 1/2 Investment Income

Bonds valued at amortized value, stocks at cost.

Market values are not considered.

RECENT LEGISLATIVE CHANGES

1984 SESSION

Direct deposit

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 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

HB2630 Cap removed on spouse maximum annuity.

Automatic post-retirement increase to begin on first anniversary of retirement following attainment at age 60.

LABORERS' AND RETIREMENT BOARD EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO 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 |
| 1983B | 1.370 | 1.54 | 1.60 | 1.21 |
| 1984 | 1.370 | 1.58 | 1.63 | 1.30 |
| 1985AB | 1.370 | 1.60 | 1.64 | 1.33 |
| 1986AB | 1.370 | .99 | 1.00 | .94 |

A = Change in actuarial assumptions B = Change in benefits

43

HISTORY OF FINANCIAL INFORMATION

| Year End | Employee Contributio | | mployer ributions(2) | Investment Income (3) | Total Income |
|--|---|--|---|--|--|
| 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 | 5,928,386 6,269,104 6,597,012 7,375,222 7,887,179 8,568,248 9,077,825 9,571,764 9,729,912 10,522,389 11,546,286 11,608,537 11,531,243 11,569,775 11,691,095 | 5, 6, 7, 8, 9, 11, 12, 12, 13, 14, | 793,135 463,149 103,125 699,000 287,000 470,000 477,125 108,298 791,330 392,694 589,417 681,225 996,619 035,039 ,765,250 | 5,391,547 4,394,426 4,646,080 8,665,212 10,785,585 11,993,200 10,112,216 13,547,589 12,626,861 9,631,793 19,729,269 31,809,924 28,832,621 58,720,209 67,653,382 | 16,113,068 16,126,679 17,346,217 22,739,434 25,959,764 29,031,448 28,667,166 34,227,651 34,148,103 32,546,876 43,864,972 57,099,686 55,360,483 85,325,023 94,109,727 |
| Year End | Benefits | Administrativ Expenses | /e Refunds | Total | Income Less Pay Outs(5) |
| 73 74 75 76 77 78 79 80 81 82 83 84 85 | 5,014,917 5,587,346 6,329,476 7,028,933 7,710,946 8,704,971 9,764,039 10,795,166 12,161,292 12,880,890 13,851,434 14,828,962 16,582,310 18,516,249 20,881,472 | \$ 208,278 215,796 231,455 261,733 288,228 316,160 350,648 438,914 440,591 640,795 626,772 641,349 766,485 1,266,552 2,006,912 | \$1,201,934 1,322,312 1,438,356 1,400,097 1,483,562 1,798,049 2,339,764 2,821,593 4,195,056 3,074,561 1,860,636 1,936,538 3,124,454 2,273,021 2,886,317 | \$ 6,425,129 7,125,454 7,999,287 8,690,763 9,482,736 10,819,180 12,454,451 14,055,673 16,796,939 16,596,246 16,338,842 17,406,849 20,473,249 22,055,822 25,774,701 | \$ 9,687,939 9,001,225 9,346,930 14,048,671 16,477,028 18,212,268 16,212,715 20,171,977 17,351,164 15,950,630 27,526,130 39,692,837 34,887,234 63,269,201 68,335,026 |

Statistical material required by Government Accounting Standards Board.

- Includes deductions in lieu for disability
 Net tax levy and miscellaneous income
 Includes realized net loss on sale and exchange of bonds
 Includes pensions, benefits, refunds and administrative expenses
 Does not include prior year adjustments

HISTORY OF FINANCIAL INFORMATION ANNUAL ACTUARIAL REQUIREMENTS

Actuarial Recommended Contribution (Employer and Employee)
Normal Cost Plus Various Amortization Methods.

| Normal | Cost Plus Var | ious Amortization | Methods. | | |
|---|---|---|---|--|---|
| Year 79A 80 81 82 83A 84B 85 86AB 87AB | NC Plus Interest 20,575,276 21,699,408 25,019,195 23,885,754 24,484,651 25,818,914 26,200,791 24,965,655 20,171,065 | B NC Plus ERISA 40-Year Amortization 21,211,686 22,362,086 25,711,368 24,620,727 25,070,322 26,456,281 26,746,874 25,330,252 20,249,927 | C NC Plus Increasing % of Salary 18,442,428 19,478,525 22,699,461 21,422,580 21,442,931 22,731,331 23,555,414 22,617,955 19,681,589 | Percenta Beginn 9.90 20 20.50 2 22.98 23 20.23 20 18.23 13 19.66 20 19.95 20 | B C ssed as ge of Salary ing of Year 0.51 17.84 1.13 18.41 3.62 20.85 0.86 18.15 8.67 15.97 0.14 17.31 0.37 17.94 0.17 18.01 5.75 15.30 |
| ACTUAL | EMPLOYER AND | EMPLOYEE CONTRIBU | TION | | |
| Year | D Employer | E Employee | | D Express Percentage Reginnin | |
| 79A 80 81 82 83A 84B 85 86AB 87AB | 11,108,298 11,791,330 12,392,694 12,589,417 13,681,225 14,996,619 15,035,039 14,765,250 EST14,669,760 | 9,729,912 10,522,389 11,546,286 11,608,537 11,531,243 11,569,775 11,691,095 | | 10.74 11.14 11.38 10.66 10.19 11.42 11.45 11.76 | 9.26 9.19 9.67 9.78 8.64 8.78 8.81 9.31 8.50 |
| DEFICI | ENCY (EXCESS) | IN ANNUAL CONTRIE | BUTION | | |
| A Cha | | 840,844 2,796,285) 485,024) (219,440)) (71,581)) 142,060) (1,126,093)) (5,350,987) al assumptions | H NC Plus Increasing % of Salary (2,237,634) (2,042,717) (215,622) (2,713,123) (3,846,831) (3,796,531) (3,049,400) (3,838,390) (5,919,325) | Percentag Beginni (.10) .17 1.93 2 (.21) (.60) ((.54) (.31 (1.19) (| G H sed as a le of Salary ng of Year .51 (2.16) .79 (1.93) .57 (.20) .41 (2.30) .16) (2.86) .05) (2.89) .11 (2.32) .90) (3.06) 4.16) (4.60) |

HISTORY OF FINANCIAL INFORMATION

ACCRUED AND UNFUNDED LIABILITIES

| 71A \$158,815,569 \$110,423,040 69.5% \$48,392,529 \$66,142,320 73% 72 172,160,657 120,072,655 69.7 52,088,002 69,950,692 74 73 197,782,050 128,624,035 65.0 69,158,015 73,108,848 95 74 215,636,093 137,709,821 63.9 77,926,272 78,526,728 99 75 242,216,859 151,749,085 62.7 90,467,774 89,276,280 101 76A 252,410,689 168,219,982 66.6 84,190,707 90,487,008 93 77 277,111,671 186,428,465 67.3 90,683,205 98,029,296 93 78A 301,135,468 202,643,520 67.3 98,491,948 103,399,152 95 79 323,368,034 220,810,778 68.3 102,557,256 105,825,264 97 80 345,364,820 238,242,772 69.0 107,122,048 108,854,496 98 81 367,980,498 254,234,605 69.1 113,745,893 118,054,512 96 82A 391,353,993 281,708,565 72.0 109,645,428 134,293,920 82 | Year- End | Accrued Liability | Assets at Book Value | Funded Ratio | Unfunded Accrued Liability | Payroll | Unfunded Accrued % Payroll |
|---|--|---|--|--|--|--|---|
| 83B 444,711,069 321,404,078 72.3 123,306,991 131,355,840 94 84 462,455,964 356,809,111 77.2 105,646,853 131,327,856 80 85AB 495,844,974 420,554,173 84.8 75,290,801 125,594,688 60 86AB 507,984,848 489,403,006 96.3 18,581,842 128,601,816 14 | 72 73 74 75 76A 77 78A 79 80 81 82A 83B 84 85AB | 172,160,657 197,782,050 215,636,093 242,216,859 252,410,689 277,111,671 301,135,468 323,368,034 345,364,820 367,980,498 391,353,993 444,711,069 462,455,964 495,844,974 | 120,072,655 128,624,035 137,709,821 151,749,085 168,219,982 186,428,465 202,643,520 220,810,778 238,242,772 254,234,605 281,708,565 321,404,078 356,809,111 420,554,173 | 69.7 65.0 63.9 62.7 66.6 67.3 67.3 69.0 69.1 72.0 72.3 77.2 84.8 | 52,088,002 69,158,015 77,926,272 90,467,774 84,190,707 90,683,205 98,491,948 102,557,256 107,122,048 113,745,893 109,645,428 123,306,991 105,646,853 75,290,801 | 69,950,692 73,108,848 78,526,728 89,276,280 90,487,008 98,029,296 103,399,152 105,825,264 108,854,496 118,054,512 134,293,920 131,355,840 131,327,856 125,594,688 | 74 95 99 101 93 95 97 98 96 82 94 80 60 |

SOLVENCY (TERMINATION) TEST

| Year End | | • | Term. | Assets at Book Value | Termination Cost (excess) | Quick Ratio Assets to Term. Liab. |
|-------------|--------------|--------------|---------------|----------------------------|---------------------------------|---|
| 75 | \$56,403,573 | \$63,162,106 | \$119,565,679 | \$151,749,08 | 5 \$(32,183,4 | 106) 127% |
| 76A | 61,271,047 | 68,189,205 | 129,460,252 | 168,219,98 | 2 (38,759,7 | 730) 130 |
| 77 | 67,977,467 | 73,608,310 | 141,585,777 | 186,428,46 | 6 (44,842,6 | 589) 132 |
| 78A | 77,603,101 | 78,072,062 | 155,675,163 | 202,643,52 | 0 (46,968,3 | 357) 130 |
| 79 | 86,918,802 | 83,057,007 | 169,975,809 | 220,810,77 | 8 (50,834,9 | 969) 130 |
| 80 | 97,598,923 | 85,989,360 | 183,588,283 | 238,242,77 | 2 (54,654,4 | 189) 130 |
| 81 | 107,291,048 | 88,378,748 | 195,669,796 | 254,234,60 | 5 (58,564,8 | 309) 130 |
| 82A | 113,743,284 | 94,516,563 | 208, 259, 847 | 281,708,56 | 5 (73,448, | 718) 135 |
| 83B | 128,901,825 | 106,730,627 | 235,632,452 | 321,404,07 | 8 (85,771,6 | 526) 136 |
| 84 | 142,713,639 | 111,888,474 | 254,602,113 | 356,809,11 | 1 (102,206,9 | 998) 140 |
| 85AB | 158,514,452 | 117,882,073 | 276,396,525 | 420,554,17 | 3 (144,157,0 | 548) 152 |
| 86AB | 179,881,434 | 122,432,246 | 302,314,080 | 489,403,00 | 6 (187,088,9 | 926) 162 |

- A Change in valuation assumptions B Change in benefits

Quick ratio is defined as assets divided by the termination liability

HISTORY OF FINANCIAL INFORMATION

GASB ANALYSIS OF FUNDING PROGRESS *

| Year | Net Assets Available For Benefit (Book) | Pension Benefit Obligation | Percentage Funded | Unfunded Pension Benefit Obligation | Unfunded As % of Covered Payroll |
|------|--|----------------------------------|----------------------|---|---|
| 1984 | \$356,809,111 | \$415,442,598 | 85.89% | \$58,633,487 | 44% |
| 1985 | 420,554,173 | 447,815,793 | 93.91 | 27,261,620 | 21 |
| 1986 | 489,403,006 | 499,443,486 | 97.99 | 10,040,480 | 8 |

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 PERS.

^{*} 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.

SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

Method: The actuarial funding method used is the entry age normal method.

This cost method assigns to each year of employment a constant percentage of an employee's salary, called the <u>current service cost</u> (sometimes referred to as <u>normal cost</u>), sufficient to accumulate the necessary funds to provide for the <u>full prospective costs</u> 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 <u>accrued liability</u> of the fund at any point in time is the accumulated value of all <u>current service costs</u> 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 <u>assets</u> are less than the <u>accrued liability</u> is called the <u>unfunded liability</u>.

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

The required total actuarial contribution required to the fund is equal to the current service costs plus interest only on the unfunded liability. 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 annual cost basis. No reserves are set up, as these items tend to stabilize on a cash basis.

SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

- 1. Duty disability benefits
- 2. Ordinary disability benefits
- 3. Children's annuities
- 4. Refunds--including refunds for no wife
- 5. Expense of administration

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

ACTUARIAL ASSUMPTIONS

Mortality: Active Members, Present and Future Retired Members and Spouses: UP-1984 MORTALITY TABLE, male and female.

<u>Interest</u>: 7.5% a year, 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 3.5% 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, say, 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.

SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

Rate of Retirement: The rates of retirement used in this valuation are shown adjusted in an exhibit grouped by age of entrance into the service and are based on experience of the Fund. These rates were modified to assume all employees retire by age 70.

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.

<u>Asset Value</u>: Bonds are amortized value; stocks are at cost, real estate separate accounts at adjusted cost.

Reciprocal Benefits: Active life normal costs and reserves are loaded 1%.

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

Required Tax Multiple: 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.

SERVICE TABLE FUNCTIONS

Rates of Retirement

| Ma | le |
|----|----|
|----|----|

| Attained Age | Age 22 | at Ent 27 | rance 32 | 37 | 42 | 47 | 52 | 57 | 62 |
|--|---|--|--|--|--|--|---|--|--|
| 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 | .065 .135 .187 .205 .219 .229 .236 .240 .245 .255 .324 .354 .363 .370 .374 | .010 .065 .115 .146 .157 .160 .172 .210 .321 .336 .345 .350 .354 .359 .363 | .007 .008 .010 .016 .035 .150 .193 .211 .225 .249 .334 .348 .356 .362 .367 | .008 .010 .015 .020 .028 .046 .074 .115 .140 .216 .319 .348 .358 .364 .367 | .002 .003 .005 .011 .021 .033 .055 .097 .116 .136 .152 .166 .180 .194 .208 | .007 .009 .011 .015 .022 .044 .106 .174 .200 .217 .231 .246 .259 | .021 .037 .084 .134 .162 .178 .193 .205 .220 .232 1.000 | .017 .028 .042 .064 .081 .113 .130 .139 .146 .152 | .125 .145 .167 .201 .227 .275 .290 |
| Female | | | | | | | | | |
| 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 | .028 .036 .044 .057 .068 .080 .097 .110 .120 .136 .154 .168 .176 .189 1.000 | .025 .035 .052 .067 .073 .085 .093 .098 .106 .123 .180 .221 .236 .246 .254 | .021 .023 .024 .027 .031 .044 .098 .172 .193 .204 .213 .218 .228 .238 .259 | .019 .023 .026 .031 .037 .045 .053 .060 .071 .083 .101 .141 .190 .228 .237 | .013 .016 .021 .026 .034 .043 .056 .077 .095 .114 .136 .163 .183 .200 .214 | .006 .009 .014 .023 .032 .047 .062 .100 .160 .173 .193 .204 .214 | .018 .027 .045 .070 .135 .163 .176 .182 .184 .188 | .019 .030 .043 .066 .100 .145 .172 .186 .194 .201 | .070 .090 .153 .163 .168 .171 .174 |

Expected average age of retirement

present membership 62.77 new hires 62.74

SERVICE TABLE FUNCTIONS

Rates of Termination

| | | - | |
|---|---|---|---|
| Μ | a | ı | 6 |

| Attained Age | Age at 22 | Entrance 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 | .054 .036 | .056 | .027 |
| Attained Age | | e Death Ra UP-1984 Per 1,000 | ate | Fema | ale Dea UP-198 Per 1,0 | 84 | | oportion Married % | |
| 22 27 32 37 42 47 | | 1.167 1.058 1.208 1.792 2.818 4.635 | | | 1.385 1.167 1.058 1.208 1.792 2.818 | | | 81 81 80 83 | |

52

57

62

67

70

7.543

11.863

18.685

29.634

37.667

4.635

7.543

11.863

18.685

24.847

84

82

80

78

74

IMPACT SHEET PREPARED BY FUND ACTUARY

| FUND | CHICAGO LABORERS | | | | | |
|----------------------------------|------------------|-----------------|--|--|--|--|
| ANNUAL PAYROLL | \$128,601,816 | | | | | |
| ACTIVE MEMBERS | 4,844 | | | | | |
| VALUATION DATE | 12-31-86 | | | | | |
| | PRESENT PLAN | | | | | |
| (1) ACCRUED LIABILITY | \$507,984,848 | | | | | |
| (2) ASSETS | \$489,403,006 | | | | | |
| (3) UNFUNDED LIABILITY | \$18,581,842 | | | | | |
| (4) FUNDED RATIO | 96.34% | | | | | |
| DIRECTION OF FINANCIAL CONDITION | | | | | | |
| (5) REQD ANNUAL CONTRIBUTION | \$20,171,065 | \$4,164 15.68% | | | | |
| (6) EST EMPLOYER CONTRIBUTION | \$14,669,760 | \$3,028 11.41% | | | | |
| (7) EST EMPLOYEE CONTRIBUTION | \$10,931,154 | \$2,257 8.50% | | | | |
| (8) DEFICIENCY(EXCESS) | (\$5,429,849) | (\$1,121)-4.22% | | | | |

PLAN SUMMARY

PARTICIPANTS

Person employed by the City in a position classified by the Civil Service Commission of the employer 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 O.D. credit, the exact number of days, months and years are used.

RETIREMENT ANNUITY

Money Purchase Formula: Maximum is 60% of final 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 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 to 70; (c) resigning at the time of disability expiration. Money purchase can be calculated only to age 70.

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

- a. An employee age 55 or older born before January 1, 1936, and 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. (For employees born after January 1, 1936 the accrual rates are 1.67%, 1.90%, 2.10% and 2.30% and the discount factor for age less than 60 is 0.5%.)
- 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.

PLAN SUMMARY

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 The death of the employee before retirement voids the vears prior to death. 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. 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 employee and the age of the reversionary annuitant at the starting date of the employee's annuity.

Reciprocal Annuity: Under reciprocal retirement an employee can receive 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 is 65, or retires prior to age 65, 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.) In the case of the spouse of an employee over 65, the money purchase annuity is the amount fixed at employee age 65; all deductions after that time are refunded if the employee dies in service.

If the employee dies in service under 65, the spouse's annuity is based on all sums accumulated to their credit. This annuity cannot exceed the amount at which the spouse's annuity would have been fixed if the employee had continued to work to age 65.

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.

PLAN SUMMARY

SPOUSE'S ANNUITY

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 1/2 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 0.5% for each month that the spouse is under age 60 at the time the annuity is fixed. If the employee was born before January 1, 1936, and withdraws from service on or after August 16, 1985, the spouse discount factor is 0.25%.

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.

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 participant is age 65 and 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 \$80 per month while spouse of deceased employee is alive and \$120 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

<u>Duty Disability Benefits</u>: Any employee who becomes disabled as the result of injury incurred in the performance of any act of duty, shall have a right to

PLAN SUMMARY

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. 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 1/4 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 1/4 of employee's total service, but no more than 5 years or age 70, whichever occurs first.

GROUP HEALTH HOSPITAL AND SURGICAL INSURANCE PREMIUMS

The pension fund may provide up to \$25 per month (paid to the underwriting organization) health insurance supplement for employee annuitants if the employee is age 65 or older with least 15 years of service. This supplement is available to any employee annuitant who is receiving annuity or for any employee who retires on annuity in the future.

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 or attains age 65.

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<u>To Spouse:</u> 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 | Contributions * | | |
|--|-----------------------------|------------------|--|--|
| Employee Spouse Annuity Increase | 6-1/2% 1-1/2% ** 1/2% | 6% 2% ** - | | |
| Total: | 8-1/2% | 8% | | |

^{**} Only to employee age 65.

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 W2 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.