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

## ACTUARIAL STATEMENT

## December 31, 1996

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## HIGHLIGHTS OF 1996 LABORERS' ACTUARIAL REPORT

The membership ${ }^{1}$ decreased $1.2 \%$ to 3,785 members, while the average salaries of the members increased $7.4 \%$ from $\$ 39,926$ to $\$ 42,874$. Valuation payroll increased $6.1 \%$ from $\$ 153.0$ million to $\$ 162.3$ million.

Total benefits of $\$ 49.1$ million were paid from the fund. Refunds of $\$ 2.7$ million were paid. Employer contributions were $\$ 19.6$ million (up) and total employee contributions were $\$ 14.9$ million (up slightly).

The total assets of the fund, at book value, increased from $\$ 979.0$ to $\$ 1,074.7$ million, or $9.8 \%$ and reflected the excess of income over payments by the Fund of $\$ 95.7$ million. A realized investment gain of $\$ 67.8$ million (up) was taken on an investment income of $\$ 117.8$ million.

Fund assets earned $11.78 \%$ (book value on total assets net of investment expense) which is greater than the actuarial assumption of $8.0 \%$, resulting in a decrease in the unfunded liability of $\$ 36.7$ million. The market yield on invested assets was $10.52 \%$. The $\$ 125.4$ million excess of market value over book value at the beginning of the year remained about the same at the end of the year.

The total liabilities of the fund increased $5.2 \%$ from $\$ 890.4$ to $\$ 936.6$ million. The funded ratio (assets divided by liabilities) increased from $109.96 \%$ to $114.74 \%$. The GASB ratio, üsing a different method of measuring the liabilities, was $128.88 \%$. The surplus increased from $\$ 89$ million to $\$ 138$ million.

The employer multiple of 1.37 times the employee contributions, made two years prior, is adequate to finance the plan on the normal cost plus interest method.

The 164 new annuitants added ( 87 employees) to the rolls was down from 191 last year. The number receiving a period of disability decreased from 612 to 557 . The 297 refunds was up from 245 last year. This represents activity on $28 \%$ of the active membership. $68 \%$ of employee annuitants participate in retiree health, while only $50 \%$ of spouse annuitants participate.

The average new male retiree with 25.6 years of service at age 61.2 was granted an average annual pension of $\$ 21,943$, or $53.88 \%$ of his last salary. This pension, which will also provide for increases, spouse pension and health insurance premium supplement, is worth $\$ 253,832$ in present value. Approximately $10 \%$ of employee annuities were reciprocal of which $11 \%$ worked last in this fund.

[^0]Income

| Investment Before Expenses | \$ | 96,491,994 | \$ | 117,752,240 |
| :---: | :---: | :---: | :---: | :---: |
| Employer and Miscellaneous |  | 18,311,622 |  | 19,623,717 |
| Employee |  | 14,610,842 |  | 14,856,703 |
| Total |  | 129,414,458 |  | 152,232,660 |
| Outgo |  |  |  |  |
| Refunds, Benefits, Expense | \$ | 55,765,939 | \$ | 56,571,783 |
| Excess of Income Over Outgo | \$ | 73,648,519 | \$ | 95,660,877 |
| Active Participants ${ }^{1}$ |  | 3,832 |  | 3,785 |
| Inactive Participants |  | 1,760 |  | 1,708 |
| Beneficiaries |  |  |  |  |
| Employee |  | 2,600 |  | 2,537 |
| Spouse |  | 1,427 |  | 1,417 |
| Disabilities |  | 142 |  | 147 |
| Children |  | 72 |  | 74 |
| Actuarial Funding-Going Concern |  |  |  |  |
| Liability to Date | \$ | 890,375,387 | \$ | 936,623,719 |
| Assets-Amortized Cost |  | 979,038,393 |  | 1,074,699,269 |
| Unfunded Liability |  | $(88,663,006)$ |  | $(138,075,550)$ |
| Funded Ratio |  | 109.96\% |  | 114.74\% |
| Actuarial Requirement |  | 21,340,898 |  | 21,544,208 |
| Deficiency (Excess) |  | $(10,906,267)$ |  | $(11,113,035)$ |
| Required Employer Multiple |  | 0.75 |  | 0.66 |
| Termination |  |  |  |  |
| Liability | \$ | 576,448,766 | \$ | 592,051,378 |
| Cost (Excess) on Termination |  | $(402,589,627)$ |  | $(482,647,891)$ |
| Quick Ratio |  | $169.84 \%$ |  | 181.52\% |
| Vested-Termination |  |  |  |  |
| Liability | \$ | 771,670,833 | \$ | 804,220,262 |
| Unfunded Liability (Surplus) |  | $(207,367,560)$ |  | $(270,479,007)$ |
| Funded Ratio |  | 126.87\% |  | 133.63\% |
| GASB-Going Concern ${ }^{2}$ |  |  |  |  |
| Liability-APV Credited Projected | \$ | 796,785,161 | \$ | 833,873,229 |
| Untunded Liability (Surplus) |  | $(182,253,232)$ |  | $(240,826,040)$ |
| Funded Ratio |  | 122.87\% |  | 128.88\% |
| Investment |  |  |  |  |
| Invested Assets (Book Value) | \$ | 968,135,986 | \$ | 1,069,357,807 |
| Invested Assets (Market Value) |  | 1,093,498,535 |  | 1,194,803,340 |
| Miscellaneous |  |  |  |  |
| Salary Roll | \$ | 152,996,856 | \$ | 162,276,840 |
| Average Salary |  | 39,926 |  | 42,874 |
| Present Value of Benefits | \$ | 1,115,663,013 | \$ | 1,162,260,315 |

[^1]Income

| Investment Before Expenses | \$ | 211,674,476 | \$ | 117,835,224 |
| :---: | :---: | :---: | :---: | :---: |
| Employer and Miscellaneous |  | 18,311,622 |  | 19,623,717 |
| Employee |  | 14,610,842 |  | 14,856,703 |
| Total |  | 244,596,940 |  | 152,315,644 |
| Outgo |  |  |  |  |
| Refunds, Benefits, Expense | \$ | 55,765,939 | \$ | 56,571,783 |
| Excess of Income Over Outgo | \$ | 188,831,001 | \$ | 95,743,860 |
| Active Participants ${ }^{2}$ |  | 3,832 |  | 3,785 |
| Inactive Participants |  | 1,760 |  | 1,708 |
| Beneficiaries |  |  |  |  |
| Employee |  | 2,600 |  | 2,537 |
| Spouse |  | 1,427 |  | 1,417 |
| Disabilities |  | 142 |  | 147 |
| Children |  | 72 |  | 74 |
| Actuarial Funding-Going Concern |  |  |  |  |
| Liability to Date | \$ | 890,375,387 | \$ | 936,623,719 |
| Assets-Market ${ }^{1}$ |  | 1,104,400,942 |  | 1,200,144,802 |
| Unfunded Liability |  | $(214,025,555)$ |  | $(263,521,083)$ |
| Funded Ratio |  | $124.04 \%$ |  | 128.14\% |
| Actuarial Requirement |  | 21,340,898 |  | 21,544,208 |
| Deficiency (Excess) |  | $(10,906,267)$ |  | $(11,113,035)$ |
| Required Employer Multiple |  | 0.75 |  | 0.66 |
| Termination |  |  |  |  |
| Liability | \$ | 576,448,766 | \$ | 592,051,378 |
| Cost (Excess) on Termination |  | $(527,952,176)$ |  | $(608,093,424)$ |
| Quick Ratio |  | 191.59\% |  | 202.71\% |
| Vested-Termination |  |  |  |  |
| Liability | \$ | 771,670,833 | \$ | 804,220,262 |
| Unfunded Liability (Surplus) |  | $(332,730,109)$ |  | $(395,924,540)$ |
| Funded Ratio |  | $143.12 \%$ |  | 149.23\% |
| GASB-Going Concern ${ }^{3}$ |  |  |  |  |
| Liability-APV Credited Projected | \$ | 796,785,161 | \$ | 833,873,229 |
| Unfunded Liability (Surplus) |  | $(307,615,781)$ |  | $(366,271,573)$ |
| Funded Ratio |  | $138.61 \%$ |  | 143.92\% |
| Investment |  |  |  |  |
| Invested Assets (Amortized Cost) | \$ | 968,135,986 | \$ | 1,069,357,807 |
| Invested Assets (Market Value) |  | 1,093,498,535 |  | 1,194,803,340 |
| Miscellaneous |  |  |  |  |
| Salary Roll | \$ | 152,996,856 | \$ | 162,276,840 |
| Average Salary |  | 39,926 |  | 42,874 |
| Present Value of Benefits | \$ | 1,115,663,013 | \$ | 1,162,260,315 |

${ }^{1}$ Pure market value of assets (unsmoothed) will fluctuate more than GASB "market related" assets for actuarial purposes.
${ }^{2} 1996$ active participants does not include 300-400 seasonal employees.
${ }^{3}$ Change due for 1997.

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

## Gentlemen:

This is to certify that the annual statement as of December 31, 1996, of the Laborers' and Retirement Board Employees' Annutity 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 1995. 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 Section 5/22-501.10 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.

The graph of Funded Ratios displays the ratio of assets to liabilities for the various different measures of liability.

The graph of Income and Payouts 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' 1996 survey, New Paradigm, New Potency, shows that the mean actuarial interest rate assumption for public funds (based on 269 public funds) was $8.2 \%$ for 1994 and $8.1 \%$ for 1995. The corresponding salary increase assumption for public funds was $5.6 \%$ for 1994 and $5.4 \%$ for 1995. For the 1996 survey, the average monthly benefit paid to all public retirees was \$977. Based on the 1997 Yearbook of Stocks, Bonds, Bills and Inflation published by Ibbotson Associates, Chicago, Illinois, we find the following results based on historical data for the past 71 years for the period 1926 through 1996.

|  | Total Annual <br> Return | Inflation | Net |
| :--- | :---: | :---: | :---: |
| Common Stocks | $10.7 \%$ | $3.1 \%$ | $7.6 \%$ |
| Small Stocks | 12.6 | 3.1 | 9.5 |
| Long-Term Corporate Bonds | 5.6 | 3.1 | 2.5 |
| Long-Term Government Bonds | 5.1 | 3.1 | 2.0 |
| Intermediate Term Gov't Bonds | 5.2 | 3.1 | 2.1 |
| U.S. Treasury Bills | 3.7 | 3.1 | 0.6 |
|  |  |  |  |
| Inflation for the past | 5 years | $1992-1996$ | $2.8 \%$ |
|  | 10 years | $1987-1996$ | 3.7 |
|  | 20 years | $1977-1996$ | 5.1 |
|  | 30 years | $1967-1996$ | 5.3 |
|  | 40 years | $1957-1996$ | 4.4 |
| 71 years | $1926-1996$ | 3.1 |  |

Based on a portfolio made up of $60 \%$ in long-term corporate bonds and $40 \%$ in common stocks, the annual return for the 71-year period would be approximately $7.6 \%$ with a net return after inflation of $4.5 \%$.

Based on these studies, it is our opinion that for this Fund, an $8 \%$ future interest assumption would be a reasonable rate for valuation purposes and a $6 \%$ per year salary scale would also be reasonable. These assume an underlying $4 \%$ inflation. 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 liabilities and costs in this report are based in part on an $8 \%$ per year interest assumption (net of investment expense) and a $6 \%$ per year salary scale assumption. These and all other assumptions are the same as those used for the last report. We have included market yield figures (net of investment expense) in Exhibit Q.

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 can make 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 <br> Future Benefits |  |
| :--- | ---: | ---: | ---: |
| Employee Annuity | 2,537 | $\$$ | $270,039,683$ |
| Annuity Increase | 2,438 | $45,840,341$ |  |
| Future Widow Benefit | 1,724 | $28,722,340$ |  |
| Lump Sum Death Benefit | 0 | 0 |  |
| Health Insurance Supplement | 2,439 | $10,761,424$ |  |
| Widow Annuity | 1,417 | $49,647,160$ |  |
| Total Retired Reserve |  | $\$$ | $405,010,948$ |

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 of 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.


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 | $\$ 1,074,699,269$ | $92 \%$ |
| Future Employee Contributions | $145,768,600$ | $13 \%$ |
| Future Employer Contributions | $191,714,942$ | $16 \%$ |
| Deficiency (Excess) | $(249,922,496)$ | $(21) \%$ |
| Total | $\$ 1,162,260,315$ | $100 \%$ |


| Present Value of | Actuarial Assets | \% of Total |  | Actuarial Liabilities | \% of Total |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Benefits |  |  |  |  |  |
| Retired Lives |  |  | \$ | 405,010,948 | 35\% |
| Active Lives |  |  |  | 757,249,367 | 65\% |
| Present Assets | \$ 1,074,699,269 | 92\% |  |  |  |
| Normal Costs | 225,636,596 | 19\% |  |  |  |
| Unfunded Liability (Surplus) | $(138,075,550)$ | (12)\% |  |  |  |
| Total | \$ 1,162,260,315 | 100\% | \$ | 1,162,260,315 | 100\% |

Graph E (the pie charts) illustrates:

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 former 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 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 Compiled Statutes, Chapter 40, Section 5/22-501.10. The results are given in the following table:

## Required 1997 Tax Levy $\quad$ Ultimate Required Multiple ${ }^{1}$

| 1. Normal Cost Plus Interest Only | $\$ 8,073,622$ | 0.66 |
| :--- | :--- | :--- |
| 2. ERISA: Normal Cost Plus 40-Year <br> Amortization | $\$ 8,073,622$ | 0.66 |
| 3. Normal Cost Plus 40-Year Level \% of <br> Payroll Increasing 4\% a Year (Inflation <br> Only) | $\$ 8,073,622$ | 0.66 |
| 4. Present Law (Includes Park) | $\$ 19,649,700$ | 1.37 |

The Required Tax Levy shown is based on the employer's share of the Normal Cost plus Interest. Paragraph 11-178 requires the City to contribute until the present values of all annuities, present or prospective, are fully funded.
${ }^{1}$ Assuming all valuation assumptions are realized and no future benefit liberalization.

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. The Laborers' membership has been declining over the last 25 years. The active membership is slightly over half of what it was at the end of 1971.

## Required Actuarial Contribution

Based on the normal cost plus interest method of funding, we find that the tax levy for 1997 should be $\$ 8,073,622$, which amount includes a $4 \%$ overall reserve for loss on collection. This amount is based on an annual payroll (as of December 31, 1996) of $\$ 162,276,840$ and an active membership of 3,785 persons. The detail is shown in the table that follows.

|  |  |  | Last Year Amount | This Year Amount | Last Year $\%$ of Salary | This Year $\%$ of Salary |  | st Year lars Per Active ember | This Year Dollars Per Active Member |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1. | Normal Cost for Current Service | \$ | 21,340,898 | \$ 21,544,208 | 13.95\% | 13.28\% | \$ | 5,569 |  | 5,692 |
| 2. | $8 \%$ Interest on Unfunded Liability |  | 0 | 0 | 0.00\% | 0.00\% |  | 0 |  | 0 |
| 3. | Total Actuarial <br> Requirement ( $1+2$ ) | \$ | 21,340,898 | \$ 21,544,208 | 13.95\% | 13.28\% | \$ | 5,569 | \$ | 5,692 |
| 4. | Employee Contributions | \$ | 13,004,733 | \$ 13,793,531 | 8.50\% | 8.50\% | \$ | 3,394 | \$ | 3,644 |
| 5. | Employer <br> Requirement (3-4) |  | 8,336,165 | 7,750,677 | $5.45 \%$ | 4.78\% |  | 2,175 |  | 2,048 |
| 6. | Expected Net <br> Employer <br> Contribution from Tax Levy of |  | 20,044,200 | 19,649,700 |  |  |  |  |  |  |
|  | After a 4\% Loss |  | 19,242,432 | 18,863,712 | $12.58 \%$ | $11.62 \%$ |  | 5,022 |  | 4,984 |
| 7. | Expected Net Annual Deficiency (Excess) |  | $(10,906,267)$ | $\$(11,113,035)$ | (7.13)\% | (6.85)\% | \$ | $(2,846)$ | \$ | $(2,936)$ |
| 8. | Tax Levy Required (Assume 4\% Loss) |  | 8,683,505 | 8,073,622 |  |  |  |  |  |  |
| 9. | Required Multiple |  | 0.75 | 0.66 |  |  |  |  |  |  |
| 10. | Present Authorized Multiple |  | 1.37 | 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 the Fund is more than meeting the annual actuarial cost on the normal cost plus interest basis. The Employer Requirement and the Tax Levy Required shown are based on the employer's share of the current service cost. The statute requires the City to contribute until the present values of all annuities, present or prospective, are fully funded.

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 <br> $\%$ of <br> Salary | This Year <br> $\%$ of <br> Salary | Last Year <br> \$/Active <br> Member | This Year <br> \$/Active <br> Member |  |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Detail of Normal Cost | $6.72 \%$ | $6.72 \%$ | $\$$ | 2,685 | $\$$ |
| Retirement Annuity | $1.41 \%$ | $1.41 \%$ | 565 | 2,881 |  |
| Post-retirement Annuity Increase | $0.66 \%$ | $0.66 \%$ | 263 | 607 |  |
| Post-retirement Spouse Annuity | $0.52 \%$ | $0.51 \%$ | 207 | 281 |  |
| Spouse Annuity for Death in Service | $0.13 \%$ | $0.13 \%$ | 51 | 220 |  |
| Health Insurance | $0.07 \%$ | $0.07 \%$ | 29 | 52 |  |
| Child's Annuity | $0.61 \%$ | $0.53 \%$ | 243 | 32 |  |
| Ordinary Disability | $0.69 \%$ | $0.62 \%$ | 275 | 267 |  |
| Duty Disability | $2.15 \%$ | $1.64 \%$ | 859 | 703 |  |
| Refunds | $0.00 \%$ | $0.00 \%$ | 0 | 266 |  |
| Widows'/Widowers' Compensation | $0.80 \%$ | $0.80 \%$ | 318 | 0 |  |
| Expense of Administration ${ }^{1}$ | $0.19 \%$ | $0.19 \%$ | 74 | 343 |  |
| Reciprocal Benefits | $13.95 \%$ | $13.28 \%$ | $\$$ | 5,569 | $\$$ |
| Total |  |  | 5,692 |  |  |

${ }^{1}$ Net of investment expense.

## Change in the Unfunded Liability

The total funded surplus as of December 31, 1996, is $\$ 138,075,550$. As of December 31, 1995, the total funded surplus was $\$ 88,663,006$. The unfunded liability has been eliminated, meaning all past service has been paid for.

## Detail of Change in Unfunded Liability

Increase in Salaries over 6.0\% Assumed
Investment Yield over 8.0\% Assumed
\$ 6,691,153 Increase
$(36,656,357)$ Decrease
Excess in Annual Contribution:

| 1996 Total Actuarial Requirement | 21,340,898 |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Less Employer Net to Fund 1996 Tax Levy | 19,623,717 |  |  |  |
| Less Employee Contributions for 1996 | 14,856,703 |  | $(13,139,522)$ | Decrease |
| Miscellaneous Experience: |  |  |  |  |
| Retirement, Death, Withdrawal |  |  | $(6,307,818)$ | Decrease |
| Net Change in Unfunded Liability |  | \$ | $(49,412,544)$ | Decrease |

See the historical tabulation in the back of this report.

The ratio of assets to accrued liabilities is $114.74 \%$ as of December 31, 1996, and was $109.96 \%$ as of December 31, 1995. This ratio represents the extent to which present and future benefit promises are secured by present assets. The funded ratio increased because assets increased $9.77 \%$ while liabilities increased $5.19 \%$.

## Ratio of Active Employees to Annuitants and Beneficiaries

The ratio of active employees to annuitants and beneficiaries is 0.91 as of December 31, 1996, and was 0.90 as of December 31, 1995. 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.

## 1995

1996


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

|  | 1995 | 1996 |  |
| :--- | ---: | ---: | ---: |
| Liability for Retired Annuitants, Widows/Widowers and Spouses of <br> Annuitants | $\$ 401,047,985$ | $\$$ | $405,010,948$ |
| Value of Active Employees Eligible to Retire | $279,310,412$ | $307,364,723$ |  |
| Accumulated Salary Deductions of Active Employees Eligible for Refund |  |  |  |
| and Not Annuity | $91,312,436$ | $91,844,591$ |  |
| Active Vested Liability | $370,622,848$ | $399,209,314$ |  |
|  | $\$ 771,670,833$ | $\$$ | $804,220,262$ |
| Total Vested Liability | $979,038,393$ | $1,074,699,269$ |  |
| Assets at Book Value | $\$(207,367,560)$ | $\$$ | $(270,479,007)$ |
| Unfunded Vested Liability (Surplus) | $126.87 \%$ | $133.63 \%$ |  |

The average amount of assets required pè active employee to provide for vested benefits as of the valuation date is $\$ 105,471$. 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 $\$ 140,453$.

## 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, 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 longterm 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.

| Pension Benefit Obligation (PBO) |  |  |  |
| :--- | ---: | ---: | ---: |
| APV of Credited Projected Benefits | 1995 | 1996 |  |
| Accumulated contributions (with interest) | $\$$ | $175,400,781$ | $\$$ |
| Payable to retirees and beneficiaries | $401,047,985$ | $405,040,430$ |  |
| Payable to vested and non-vested employees | $220,336,395$ | $241,821,851$ |  |
| Total APV | $\$$ | $796,785,161$ | $\$$ |
| Net Assets Available for Benefits (Book Value) | $833,873,229$ |  |  |
| Unfunded (Assets in Excess of) APV of Credited Projected Benefits | $\$$ | $(182,253,232)$ | $\$$ |
| Percentage Funded |  | $122.87 \%$ | $1,074,699,269$ |
| Unfunded (Surplus) APV as Percent of Payroll | $(119.12) \%$ | $128.826,040)$ |  |

## 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 $\$ 3.28$. 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.

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 and if the amortization period is reestablished each year. Subject to projections of contributions and disbursements for potential cash 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 P. Campbell, FSA, MCA, MAAA Enrolled Actuary No. 96-1498
Katrine in Schanding
Katherine M. Schanding, FSA, MAAA Enrolled Actuary No. 96-3838

DPC:iw

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

## Actuarial Balance Sheet

as of

December 31, 1996
i

Assets and Liabilities

## ASSETS

Actuarial Balance Sheet as of December 31, 1996

Cash

## In Bank <br> Total Cash <br> Investments

Cash Equivalent
Bonds, Par Value
Bond Premiums and Discounts
Common Stocks, Cost
Venture Capital
Real Estate
Reserve for Trust Account Loss
Accrued Bond Interest
Accrued Dividends
Total Investments
Market Value of Investments
Accounts Receivable Taxes(See Exhibit D) "
Replacement Tax from State
Tax Extension
Less Estimate for Loss on Collection
Net Taxes Receivable
Other Accounts Receivable
Salary Deductions Accrued
Active Employee Accounts
Inactive Employee Accounts
Miscellaneous Accounts Receivable
Total Other Accounts Receivable
Other Assets
Furniture and Equipment
Less: Accumulated Depreciation
Prepaid Insurance
Deferred Compensation
Total Other Assets
Gross Ledger Assets
Less Accounts Payable
Investment Manager Fees Payable
Miscellaneous Employee Accounts
Professional Fees Payable
Deferred Compensation Trust Fund
Due to Broker
Total Accounts Payable
Net Ledger Assets
$\$ \quad(859.555 .54)$
$(859,555.54)$

71,088,777.68
567,461,717.04
$(9,258,958.86)$
393,485,250.75
12,017,171.00
29,349,354.90
(2,364,370.57)
6,841,467.43
737,397.58
$1,069,357,806.95$
$1,194,803,340.00$

2,805,000.00
$18,904,221.64$
2.012.374.01
$19,696,847.63$

702,820.36
255,360.76
89,725.26
1.530 .42
$1,049,436.80$
$155,844.82$
$(107,824.73)$
$1,142.50$
114.500 .76
163.663 .35
$1,089,408,199.19$

525,528.17
1,255,487.37
21,274.27
114,500.76
$12,792,139.27$
14.708 .929 .84
$\$ 1,074,699,269.35$

## Exhibit A

## LIABILITIES AND FUND BALANCES Actuarial Balance Sheet as of December 31, 1996

## Annuity Payment Fund Account (Based on 3\% Comb. and 4\% Amer. Exp.)

| Employee Annuitants | \$ | 107,517,068.28 |
| :---: | :---: | :---: |
| Spouse Annuitants |  | 37,580,145.84 |
| Spouses' Annuities Fixed |  | 34,059,211.83 |
| Total Annuity Payment Fund |  |  |
| Salary Deduction Fund Account |  |  |
| Employees |  | 144,698,296.67 |
| Spouses of Employees |  | 33,223,896.54 |
| Total Salary Deduction Fund |  |  |
| City Contribution Fund Account |  |  |
| Employees |  | 133,895,379.33 |
| Spouses of Employees ; |  | 44,423,639.68 |
| Total City Contribution Fund |  |  |
| Other Reserves |  |  |
| Supplementary Payment Reserve |  | 90,074.95 |
| Annuity Payment Fund Account |  | 0.00 |
| Total Other Reserves |  |  |
| Prior Service Fund Account (Based on 3\% Comb. and 4\% Amer. Exp.) |  |  |
| Employee Annuitants |  | 272,553,292.92 |
| Spouse Annuitants |  | 18,947,857.20 |
| Spouses' Annuities Fixed |  | 14,613,345.13 |
| Salary Deductions 3\% Annuity Increase |  | 15,144,884.64 |
| Estimated Excess Liability ${ }^{1}$ |  | 79,876,626.48 |

Total Prior Service Fund Account

Total Liabilities
$936,623,719.49$

Obligations of Fund for Prior Service Liabilities ${ }^{1}$
$138,075,549.86$

Total Net Liabilities and Fund Balances December 31, 1996
$\$ 1,074,699,269.35$
${ }^{1}$ The attached letter of transmittal describes how this liability was determined.

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# Laborers' \& Retirement Board Employees' 

 Annuity and Benefit Fund of Chicago
## Income - Year 1996

Income and Expenditures

## Salary Deductions

Total Contributions by Employee

| Employee | \$ | $10,543,541.74$ |
| :--- | ---: | ---: |
| Spouse | $2,433,124.22$ |  |
| Automatic Increase | $810,990,28$ |  |
| Ordinary Disability | $156,817.82$ |  |
| Received from Municipal | $147,103.60$ |  |
| Temporary Service Payments | $229,529.29$ |  |
| Miscellaneous Accounts Receivable | 103.724 .29 |  |

Total
Other Service Payments
Total Contributed by Employee
Total Contributed by City for Duty Disability, Deductions in Lieu
$414,250,31$
Total Contributed by City
$414,250,31$
Total Salary Deductions
City Contributions ${ }^{1}$ :
Employees
Spouses of Employees $\quad 3,485,572.68$
Ordinary Disability Fund
860,543.38
Duty Disability Fund
Child's Annuity Payment Fund
Expense Fund
1,005,568.51
121,102.00

Health Insurance Fund
Interest on Income
4,801,525.83

Prior Service Annuity Fund
1,516,536.50
345,034.98
(3.418.340.18)

Total City Contributions
Interest on Real Estate Taxes

## Investment Income

Interest on Bonds
40,023,417.03
Dividends
Income on Venture Capital
Income on Real Estate
Gain (Loss) on Sale of Bonds
Gain (Loss) on Sale of Stocks
Gain (Loss) on Real Estate
Gain.(Loss) on Venture Capital
8,245,134.45
221,934.00
1,422,097.75
1,884,625.81
62,784,812.15
$(755,306.89)$
$3,925,526.00$
Total Investment Income
$117,752,240.30$

Miscellaneous Income
Total Income Forwarded

64,162.08
$\$ \quad 151,868,447.19$
${ }^{1} 1996$ taxes of $\$ 17,232,000$ (City) plus $\$ 6,900$ (Park) less $5 \%$ for loss of collection of $\$ 861,945$ plus replacement tax from State of $\$ 2,805,000$.

## EXPENDITURES FOR YEAR 1996

| Total Income Forwarded Annuities and Benefits Paid |  |  | \$ | 151,868,447.19 |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |
| Employee Annuities | \$ | 38,961,283.19 |  |  |
| Spouses Annuities |  | 6,661,485.45 |  |  |
| Child Annuities |  | 121,102.00 |  |  |
| Ordinary Disability |  | 860,543.38 |  |  |
| Duty Disability |  | 1,005,568.51 |  |  |
| Supplemental Annuities |  | 6,835.20 |  |  |
| Annuitant Health Insurance |  | 1,516,536.50 |  |  |
| Reciprocal Act Reimbursements |  | (4,189.34) |  |  |
| Net Benefits Paid |  |  |  | 49,129,164.89 |
| Expense of Administration |  |  |  |  |
| Salaries |  |  |  |  |
| Regular Employees |  | 523,875.73 |  |  |
| Payroll Taxes |  | 8,220.40 |  |  |
| Group Health Insurance |  | 97,783.24 |  |  |
| Life Insurance Premiums |  | 1,704.55 |  |  |
| Services |  |  |  |  |
| Actuarial Consulting i |  | 15,505.33 |  |  |
| Annuity Computation and Certification |  | 126,663.56 |  |  |
| Employee Accounts and Data Processing |  | 65,202.73 |  |  |
| Check Production |  | 69,149.23 |  |  |
| Legal Expense |  | 48,768.00 |  |  |
| Medical Expense |  | 29,376.00 |  |  |
| Auditing |  | 22,500.00 |  |  |
| Consulting |  | 8,488.00 |  |  |
| Public Education |  | 0.00 |  |  |
| Conference, Membership \& Education Expense |  | 22,500.38 |  |  |
| Election Expense |  | 542.29 |  |  |
| Printing and Stationery |  | 55,369.96 |  |  |
| Office Supplies and Equipment |  | 10,343.97 |  |  |
| Postage |  | 35,999.28 |  |  |
| Rent and Electricity |  | 114,004.01 |  |  |
| Telephone |  | 4,730.98 |  |  |
| Depreciation Expense |  | 31,043.78 |  |  |
| Miscellaneous |  | 2.354.92 |  |  |
| Total Administrative Expenses |  |  |  | 1,294,126.34 |
| Refunds |  |  |  | 2,661,026.68 |
| Transfer to Aldermanic Plan |  |  |  | 0.00 |
| Litigation Expense |  |  |  | 3,045.22 |
| Investment Manager Fees |  |  |  | 2,975,409.59 |
| Investment Custodian Fees |  |  |  | 528,944.68 |
| Total Expenditures |  |  |  | 56.591 .717 .40 |
| Excess Income Over Expenditures |  |  |  | 95,276,729.79 |
| Net Change in Reserve for Loss and Cost of Collection and Taxes |  |  |  |  |
| Receivable for Prior Years |  |  |  | 364,212.93 |
| Net Change in Reserve for Payables and Receivables |  |  |  | 19.934 .04 |
| Increase in Net Assets for Year |  |  | \$ | 95,660,876.76 |

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

## Comparative Analysis - Year 1996

## Assets and Liabilities

## COMPARATIVE ANALYSIS

## ASSETS

|  | 1995 |  | 1996 |  | Increase (Decrease) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Total Cash | \$ | 2,631,476 | \$ | $(859,556)$ | \$ | $(3,491,032)$ |
| Investments |  |  |  |  |  |  |
| Cash Equivalents |  | 77,795,218 |  | 71,088,778 |  | $(6,706,440)$ |
| Bonds (Par Value) |  | 493,367,671 |  | 567,461,717 |  | 74,094,046 |
| Bonds Premiums and Discounts |  | $(11,611,237)$ |  | $(9,258,959)$ |  | 2,352,278 |
| Common Stocks |  | 360,678,241 |  | 393,485,251 |  | 32,807,010 |
| Investment in Venture Capital |  | 9,324,934 |  | 12,017,171 |  | 2,692,237 |
| Real Estate |  | 34,946,749 |  | 29,349,355 |  | $(5,597,394)$ |
| Reserve for Trust Account Loss |  | $(4,422,200)$ |  | $(2,364,371)$ |  | 2,057,829 |
| Accrued Bond Interest |  | 7,358,975 |  | 6,841,467 |  | $(517,508)$ |
| Accrued Dividends |  | 620,735 |  | 737,398 |  | 116,663 |
| Accrued Real Estate Income |  | 76,900 |  | 0 |  | $(76,900)$ |
| Total Investments |  | 968,135,986 |  | 1,069,357,807 |  | 101,221,821 |
| Accounts Receivable-Taxes |  |  |  |  |  |  |
| Replacement Tax from State |  | 2,622,000 |  | 2,805,000 |  | 183,000 |
| Tax Extension (City and Park) | : | 17,693,831 |  | 18,904,222 |  | 1,210,391 |
| Less: Est. For L/C |  | 1,910,674 |  | 2,012,374 |  | 101,700 |
| Net Taxes Receivable |  | 18,405,157 |  | 19,696,848 |  | 1,291,691 |
| Other Accounts Receivable |  |  |  |  |  |  |
| Salary Deductions Accrued |  | 935,800 |  | 702,820 |  | $(232,980)$ |
| Active Employee Accounts |  | 302,426 |  | 255,361 |  | $(47,065)$ |
| Inactive Employee Accounts |  | 62,016 |  | 89,725 |  | 27,709 |
| Miscellaneous Accounts Receivable |  | 129 |  | 1,530 |  | 1,401 |
| Total Other Accounts Receivable |  | 1,300,371 |  | 1,049,437 |  | $(250,934)$ |
| Other Assets |  |  |  |  |  |  |
| Furniture and Equipment |  | 194,081 |  | 155,845 |  | $(38,236)$ |
| Accumulated Depreciation |  | $(120,886)$ |  | $(107,825)$ |  | 13,061 |
| Prepaid Insurance |  | 1,714 |  | 1,143 |  | (572) |
| Deferred Compensation Plan |  | 82.358 |  | 114,501 |  | 32,143 |
| Total Other Assets |  | 157,267 |  | 163,663 |  | 6,396 |
| Gross Ledger Assets |  | 990,630,257 |  | 1,089,408,199 |  | 98,777,942 |
| Less Accounts Payable |  |  |  |  |  |  |
| Investment Manager Fees Payable |  | 433,106 |  | 525,528 |  | 92,422 |
| Miscellaneous Employee Accounts |  | 1,290,558 |  | 1,255,487 |  | $(35,071)$ |
| Professional Fees Payable |  | 23,661 |  | 21,274 |  | $(2,387)$ |
| Deferred Compensation Trust Fund |  | 82,358 |  | 114,501 |  | 32,143 |
| Due to Broker |  | 9,762.181 |  | 12,792,139 |  | 3,029,958 |
| Total Accounts Payable |  | 11,591,864 |  | 14,708,930 |  | 3,117,066 |
| Total Net Ledger Assets | \$ | 979.038.393 | \$ | 1,074.699,269 | \$ | 95,660,876 |

## COMPARATIVE ANALYSIS

## LIABILITIES AND FUND BALANCES

| Liability Reserves | 1995 |  | 1996 |  | Increase (Decrease) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Annuity Payment Fund |  |  |  |  |  |  |
| Employee Annuitants | \$ | 108,270,816 | \$ | 107,517,068 | \$ | $(753,748)$ |
| Spouse Annuitants |  | 35,577,525 |  | 37,580,146 |  | 2,002,621 |
| Spouses' Annuities Fixed |  | 33,426,371 |  | 34,059,212 |  | 632,841 |
| Total Annuity Payment Fund |  | 177,274,712 |  | 179,156,426 |  | 1,881,714 |
| Salary Deduction Fund Account |  |  |  |  |  |  |
| Employees |  | 135,930,241 |  | 144,698,297 |  | 8,768,056 |
| Spouses of Employees |  | 31,174,384 |  | 33,223,897 |  | 2,049,513 |
| Total Salary Deduction Fund |  | 167,104,625 |  | 177,922,193 |  | 10,817,568 |
| City Contribution Fund Account |  |  |  |  |  |  |
| Employees |  | 125,826,385 |  | 133,895,379 |  | 8,068,994 |
| Spouses of Employees |  | 41,701,571 |  | 44,423,640 |  | 2,722,069 |
| Total City Contribution Fund |  | 167,527,956 |  | 178,319,019 |  | 10,791,063 = |
| Other Reserves |  |  |  |  |  |  |
| Supplementary Payment Reserve |  | 89,910 |  | 90,075 |  | 165 |
| Annuity Payment Fund Account |  | 0 |  | 0 |  | 0 |
| Total Other Reserves |  | 89,910 |  | 90,075 |  | 165 |
| Prior Service Fund Account |  |  |  |  |  |  |
| Employee Annuitants |  | 268,673,178 |  | 272,553,293 |  | 3,880,115 |
| Spouse Annuitants |  | 19,330,779 |  | 18,947,857 |  | $(382,922)$ |
| Spouses' Annuities Fixed |  | 14,811,617 |  | 14,613,345 |  | $(198,272)$ |
| Salary Deductions 3\% Annuity Increase |  | 14,235,914 |  | 15,144,885 |  | 908,971 |
| Estimated Excess Liability ${ }^{1}$ |  | 61,326,696 |  | 79,876,626 |  | 18,549,930 |
| Total Prior Service Account |  | 378,378,184 |  | 401,136,006 |  | 22,757,822 |
| Total Liabilities |  | 890,375,387 |  | 936,623,719 |  | 46,248,332 |
| (Unfunded) Surplus |  | 88,663,006 |  | 138,075,550 |  | 49,412,544 |
| Total Net Liabilities | \$ | 979.038 .393 | 9 | 1,074,699,269 | \$ | 95.660 .876 |

## TAXES RECEIVABLE

December 31, 1996

| Year City | Uncollected Taxes 12/31/96 |  | Estimate for Loss 12/31/95 |  | Additional Est. <br> Setup 12/31/96 |  | Total Est. for Loss 12/31/96 |  | $\begin{gathered} \text { Taxes Collectible } \\ 12 / 31 / 96 \end{gathered}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1992 | \$ | 184,783.68 | \$ | $(179,759.71)$ | \$ | $(62,104.72)$ | \$ | $(241,864.43)$ | \$ | $(57,080.75)$ |
| 1993 |  | 239,134.31 |  | $(231,432.89)$ |  | $(11,422.54)$ |  | $(242,855.43)$ |  | $(3,721.12)$ |
| 1994 |  | 190,418.86 |  | $(440,370.00)$ |  | 258,855.85 |  | $(181,514.15)$ |  | 8,904.71 |
| 1995 |  | 1,048,605.03 |  | $(805,200.00)$ |  | 322,080.00 |  | $(483,120.00)$ |  | 565,485.03 |
| 1996 |  | 17,232,000.00 |  |  |  | $(861,600.00)$ |  | $(861,600.00)$ |  | 16,370,400.00 |
| Totals | \$ | 18,894,941.88 | \$ | $(1,656,762.60)$ | \$ | $(354,191.41)$ | \$ | $(2,010,954.01)$ | \$ | 16,883,987.87 |
| Park |  |  |  |  |  |  |  |  |  |  |
| 1992 | \$ | 0.00 | \$ | $\cdots 0.00$ | \$ | 0.00 | \$ | 0.00 | \$ | 0.00 |
| 1993 |  | 0.00 |  | (235.57) |  | 235.57 |  | 0.00 |  | 0.00 |
| 1994 |  | 1,449.34 |  | (600.00) |  | 0.00 |  | (600.00) |  | 849.34 |
| 1995 |  | 930.42 |  | (475.00) |  | 0.00 |  | (475.00) |  | 455.42 |
| 1996 |  | 6,900.00 |  | 0.00 |  | (345.00) |  | (345.00) |  | 6,555.00 |
| Totals | \$ | 9,279.76 | \$ | (1,310.57) | \$ | (109.43) | \$ | $(1,420.00)$ | \$ | 7,859.76 |
| Total City and Park | \$ | 18,904,221.64 | \$ | $(1,658,073.17)$ | \$ | $(354,300.84)$ | \$ | (2,012,374.01) | \$ | 16,891,847.63 |
| Replacement Tax Due from State $1995 \$ 0.00$ |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | 1996 |  | 2,805,000.00 |
|  |  |  |  |  |  |  |  |  | \$ | 19,696,847.63 |

Note: The loss on the 1996 tax levy was $5 \%$. Due to the $100 \%$ collection of the personal property
replacement tax, the overall loss is $4 \%$. The statutory requirement of $\$ 20,043,900.00$ is the sum
Note: The loss on the 1996 tax levy was $5 \%$. Due to the $100 \%$ collection of the personal property
replacement tax, the overall loss is $4 \%$. The statutory requirement of $\$ 20,043,900.00$ is the sum of $\$ 17,232,000.00$ plus $\$ 6,900.00$ plus $\$ 2,805,000.00$.

Total City Contributions from Tax Levy $=\$ 19,181,955.00$ (see Income page).

## MEMBERSHIP STATISTICS

Year 1996

| Changes in Active Participants | Number at Beginning of Year |  | Increases Inactive to Active | Total | Decreases | Number at End of Year |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Males | 3,573 | 27 | 141 | 168 | 217 | 3,524 |
| Females | 259 | 8 | 21 | 29 | 27 | 261 |
| Total | 3,832 | 35 | 162 | 197 | 244 | 3,785 |
| Changes in Inactive Participants |  |  |  |  |  |  |
| Males | 1,627 | 121 | 114 | 235 | 285 | 1,577 |
| Females | 133 | 18 | 15 | 33 | 35 | 131 |
| Total | 1,760 | 139 | 129 | 268 | 320 | 1,708 |


| Changes in A nnuitants and Beneficiaries | Number at Beginning of Year | Increases | Decreases | Number at End of Year |
| :---: | :---: | :---: | :---: | :---: |
| Employee Annuitants | 2,445 | 81 | 148 | 2,378 |
| Spouse Annuitants | 1,388 | 75 | 89 | 1,374 |
| Child Annuities | 72 | 14 | 12 | 74 |
| Ordinary Disability Benefits | 49 | 73 | 84 | 38 |
| Duty Disability Benefits | 93 | 342 | 326 | 109 |
| Reciprocal: |  |  |  |  |
| Employee | 155 | 10 | 6 | 159 |
| Spouse | 39 | 5 | 1 | 43 |
| Widow/Widower Compensation Annuities | 0 | 0 | 0 | 0 |
| Total | 4,241 | 600 | 666 | 4,175 |
| E. Ratio of Active Participants to Annuitants and Beneficiaries | 0.90 |  |  | $0.91$ |

SALARY AND AGE STATISTICS
Ages and Salaries as of December 31, 1996


## SALARY AND AGE STATISTICS <br> Year 1996

## Ages at Entrance



## AGE AND SERVICE DISTRIBUTION

Year 1996
Average Salaries by Age and Service Grouping (Showing the Number of Active Members and the Average Salaries of Male and Female Combined)

| Average Salaries by Age and Service Grouping (Showing the Number of Active Members and the Average Salaries of Male and Female Combined) |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |
| $<20$ | 1 | 1 |  |  |  |  |  |  |  | 2 |
|  | \$44,928 | \$37,896 |  |  |  |  |  |  |  | \$41,412 |
| 20-24 | 1 | 53 | 5 |  |  |  |  |  |  | 59 |
|  | \$44,928 | \$39,681 | \$40,310 |  |  |  |  |  |  | \$39,823 |
| 25-29 | 2 | 94 | 81 | 2 |  |  |  |  |  | 179 |
|  | \$31,968 | \$41,543 | \$40,518 | \$43,788 |  |  |  |  |  | \$40,997 |
| 30-34 | 4 | 94 | 146 | 70 | 41 |  |  |  |  | 355 |
|  | \$43,170 | \$41,704 | \$40,208 | \$45,829 | \$44,637 |  |  |  |  | \$42,257 |
| 35-39 |  | 80 | 139 | 1119 | 247 | 36 |  |  |  | 621 |
|  |  | \$42,530 | \$39,976 | \$42,308 | \$44,740 | \$47,307 |  |  |  | \$43,071 |
| 40-44 | 2 | 60 | 115 | 102 | 252 | 219 | 10 |  |  | 760 |
|  | \$33,468 | \$42,163 | \$39,426 | \$42,584 | \$43,985 | \$45,696 | \$44,638 |  |  | \$43,437 |
| 45-49 | 3 | 37 | 63 | 75 | 168 | 147 | 86 | 12 |  | 591 |
|  | \$36,912 | \$41,236 | \$38,651 | \$41,478 | \$43,534 | \$45,872 | \$46,909 | \$47,836 |  | \$43,735 |
| 50-54 | 1 | 26 | 35 | 49 | 90 | 84 | 72 | 69 | 13 | 439 |
|  | \$42,120 | \$42,451 | \$39,039 | \$41,504 | \$42,004 | \$43,343 | \$45,775 | \$45,200 | \$48,511 | \$43,308 |
| 55-59 | 1 | 17 | 23 | 29 | 88 | 69 | 50 | 73 | 35 | 385 |
|  | \$20,832 | \$43,146 | \$36,580 | \$39,439 | \$41,959 | \$43,222 | \$44,365 | \$48,243 | \$48,314 | \$43,753 |
| 60-64 | 1 | 6 | 14 | 30 | 56 | 46 | 27 | 32 | 22 | 234 |
|  | \$44,928 | \$37,648 | \$36,819 | \$39,077 | \$40,234 | \$43,657 | \$40,052 | \$34,949 | \$43,918 | \$40,110 |
| 65-69 |  | 3 | 5 | 10 | 25 | 23 | 10 | 14 | 21 | 111 |
|  |  | \$43,032 | \$35,899 | \$40,440 | \$41,915 | \$40,857 | \$42,955 | \$33,351 | \$50,545 | \$41,968 |
| $70+$ |  | 2 | 1 | 5 | 15 | 4 | 7 | 3 | 12 | 49 |
|  |  | \$29,064 | \$44,928 | \$37,430 | \$43,024 | \$44,544 | \$47,955 | \$34,144 | \$36,974 | \$40,726 |
| Number | 16 | 473 | 627 | 491 | 982 | 628 | 262 | 203 | 103 | 3,785 |
| Salary | \$38,252 | \$41,595 | \$39,597 | \$42,212 | \$43,480 | \$44,909 | \$45,196 | \$43,854 | \$46,534 | \$42,874 |
| Age | 38.7 | 36.0 | 38.8 | 44.0 | 45.7 | 48.5 | 53.3 | 56.5 | 61.9 | 45.1 |
| Service | 1.0 | 3.1 | 7.3 | 11.9 | 17.0 | 21.6 | 26.9 | 31.5 | 38.0 | 15.7 |

## AGE AND SERVICE DISTRIBUTION

## Year 1996

Average Salaries by Age and Service Grouping (Showing the Number of Inactive Members and the Average Salaries of Male and Female Combined)


ANNUITANTS CLASSIFIED BY AGE AS OF DECEMBER 31, 1996 Retirement Annuities (Including Reciprocal)

| Age | Male <br> Nünber |  | Aninual Payneits | Average Aninual Payuients | Female <br> Number | Aninial <br> Payments |  | verage <br> tininal <br> yyments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 30-34 | 1 | \$ | 1,753.80 | \$ 1,753.80 | 0 | \$ 0.00 | \$ | 0.00 |
| 35-39 | 0 |  | 0.00 | 0.00 | 0 | 0.00 |  | 0.00 |
| 40-44 | 1 |  | 3,408.36 | 3,408.36 | 0 | 0.00 |  | 0.00 : |
| 45-49 | 3 |  | 10,511.64 | 3,503.88 | 0 | 0.00 |  | 0.00 |
| 50-54 | 4 |  | 30,260.52 | 7,565.13 | 1 | - 4,311.12 |  | 4,311.12 |
| 55-59 | 111 |  | 2,676,299.40 | 24,110.81 | 4 | 74,390.40 |  | 18,597.60 |
| 60-64 | 233 |  | 5,354,239.32 | 22,979.57 | 13 | 192,471.60 |  | 14,805.51 |
| 65-69 | 414 |  | 9,288,013.44 | 22,434.82 | 63 | 672,676.92 |  | 10,677.41 |
| 70-74 | 430 |  | 7,948,904.88 | 18,485.83 | 115 | 1,062,618.60 |  | 9,240.16 |
| 75-79 | 366 |  | 5,515,604.52 | 15,069.96 | 164 | 1,220,250.60 |  | 7,440.55 |
| 80-84 | 209 |  | 2,557,824.36 | 12,238.39 | 175 | 1,045,527.96 |  | 5,974.45 |
| 85-89 | 80 |  | $792,484.56$ | 9,906.06 | 83 | 404,789.76 |  | 4,876.99 |
| 90-94 | 16 |  | 163,922.28 | 10,245.14 | 39 | 184,457.76 |  | 4,729.69 |
| 95-99 | 1 |  | 6,457.56 | 6,457.56 | 10 | 45,991.56 |  | 4,599.16 |
| $100+$ | 0 |  | 0.00 | 0.00 | 1 | 4,200.00 |  | 4,200.00 |
| Totals | 1,869 | \$ | 34,349,684:64 | \$18,378.64 | 668 | \$4,911,686.28 | \$ | 7,352.82 |
| Average Age. |  |  |  | 71 |  |  |  | 78 |
|  |  |  | Duse enmuities | fotincluding | Compensat |  |  |  |
| 25-29 | 0 | \$ | 0.00 | \$ 0.00 | 1 | \$ 3,600.00 | \$ | 3,600.00 |
| 30-34 | 0 |  | 0.00 | 0.00 | 2 | 7,366.56 |  | 3,683.28 |
| 35-39 | 0 |  | 0.00 | 0.00 | 6 | 25,337.64 |  | 4,222.94 |
| 40-44 | 0 |  | 0.00 | 0.00 | 7 | 30,382.20 |  | 4,340.31 |
| 45-49 | 0 |  | 0.00 | 0.00 | 18 | 79,886.04 |  | 4,438.11 |
| 50-54 | 0 |  | 0.00 | 0.00 | 36 | 170,955.72 |  | 4,748.77 |
| 55-59 | 0 |  | 0.00 | 0.00 | 77 | 444,694.68 |  | 5,775.26 |
| 60-64 | 2 |  | 7,492.32 | 3,746.16 | 105 | 655,686.60 |  | 6,244.63 |
| 65-69 | 2 |  | 9,020.16 | 4,510.08 | 169 | 897,471.00 |  | 5,310.48 |
| 70-74 | 9 |  | 33,970.80 | 3,774.53 | 258 | 1,415,285.88 |  | 5,485.60 |
| 75-79 | 7 |  | 29,495.52 | 4,213.65 | 298 | 1,333,852.44 |  | 4,476.01 |
| 80-84 | 6 |  | 21,600.00 | 3,600.00 | 240 | 956,702.76 |  | 3,986.26 |
| 85-89 | 1 |  | 3,600.00 | 3,600.00 | 126 | 482,422.32 |  | 3,828.75 |
| 90-94 | 0 |  | 0.00 | 0.00 | 39 | 140,041.68 |  | 3,590.81 |
| 95-99 | 0 |  | 0.00 | 0.00 | 8 | 28,800.00 |  | 3,600.00 |
| $100+$ | 0 |  | 0.00 | 0.00 | 0 | 0.00 |  | 0.00 |
| Totals | 27 | \$ | 105,178.80 | \$ 3,895.51 | 1,390 | \$6,672,485.52 | \$ | 4,800.35 |
| Average Age |  |  |  | 74 |  |  |  | 73 |

HEALTH INSURANCE SUPPLEMENT CLASSIFIED BY AGE AS OF DECEMBER 31, 1996

| Age | Single <br> Coverage | Family <br> Coverage | Retireme <br> Total Participants | Annuities <br> Total NonPart. | Total Annuitants | \% Partl Annuitants |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 30-39 | 1 | 0 | 1 | 0 | 1 | 100.00\% |
| 40-49 | 1 | 2 | 3 | 1 | 4 | 75.00\% |
| 50-59 | 27 | 56 | 83 | 37 | 120 | 69.17\% |
| 60-69 | 228 | 316 | 544 | 179 | 723 | 75.24\% |
| 70-79 | 371 | 385 | 756 | 319 | 1,075 | 70.33\% |
| 80-89 | 217 | 103 | 320 | 227 | 547 | 58.50\% |
| Over 90 | 26 | 4 | 30 | 37 | 67 | 44.78\% |
| Total | 871 | 866 | 1,737 | 800 | 2,537 | 68.47\% |
|  | Spouse Annuitants (Not Incluning Compensation) |  |  |  |  |  |
| Under 30 | 0 | 1 | 1 | 0 | 1 | 100.00\% |
| 30-39 | 1 | 4 | 5 | 3 | 8 | 62.50\% |
| 40-49 | 5 | 3 | 8 | 17 | 25 | 32.00\% |
| 50-59 | 50 | 8 | 58 | 55 | 113 | 51.33\% |
| 60-69 | 153 | 1 | 154 | 124 | 278 | 55.40\% |
| 70-79 | 302 | 1 | 303 | 269 | 572 | 52.97\% |
| 80-89 | 164 | 0 | 164 | 209 | 373 | 43.97\% |
| Over 90 | 9 | 0 | 9 | 38 | 47 | 19.15\% |
| Total | 684 | 18 | 702 | 715 | 1,417 | 49.54\% |

NEW ANNUITIES GRANTED DURING 1996


[^2]NEW RECIPROCAL ANNUITIES GRANTED DURING 1996

## Reciprocal and Last Service with Laborers'

|  | Reciprocal | Reciprocal/Last with Laborers' |
| :---: | :---: | :---: |
| Number Retired | 9 | 1 |
| Average Age Attained | 58.1 | 61.0 |
| Number with Spouses | 9 | 1 |
| Average Spouse Age | 55.6 | 58.0 |
| Percentage with Spouse | 100.00\% | 100.00\% |
| Average Length of Service | 34.0 | 34.8 |
| Average Service with this Fund | 9.2 | 29.7 |
| Average Final Salary | \$ 43,265 | \$ 69,468 |
| Total Final Salary | \$ 389,388 | \$ 69,468 |
| Average Annual Salary (4 out of 10) | \$ 41,792 | \$ 64,860 |
| Total AnMual Anmuity <br> Ayerage Anmula Amuity |  | $\$$ 42,342 <br> \$  <br> K  <br> K  <br> 42,342  |
| Total Liability (8\% UP-1984) | \$ 1,033,411 | \$ 505,244 |
| Average Liability | \$ 114,823 | \$ 505,244 |
| Total Contributed by EE ${ }^{\text {l }}$ | \$ 152,778 | \$ 107,733 |
| Average Contribution | \$ 16,975 | \$ 107,733 |
| Expected Future Lifetime (yrs.) | 19.63 | 17.42 |
| Payback Period (yrs.) | 1.74 | 2.54 |
| Replacement Ratio | 22.52\% | 60.95\% |
| Liability/Salary | 2.65 | 7.27 |
| Liability/Contributions | 6.76 | 4.69 |

[^3]
## Exhibit K

RETIREES AND BENEFICIARIES BY TYPE OF BENEFIT

| Year | Employee An． | Spouse Ann． | Child Annuities | Ordinary Disability | Duty Disability | Widow Comp． | Recip． Employee | Recip． 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 |
| 1990 | 2，391 | 1，279 | 86 | 70 | 145 | 1 | 90 | 38 |
| 1991 | 2，397 | 1，296 | 88 | 75 | 143 | 1 | 104 | 39 |
| 1992 | 2，416 | 1，322 | 88 | 70 | 156 | 1 | 118 | 37 |
| 1993 | 2，534 | 1，359 | 79 | 42 | 103 | 0 | 142 | 39 |
| 1994 | 2，534 | 1，362 | 75 | 55 | 106 | 0 | 146 | 41 |
| 1995 | 2，445 | 1，388 | 72 | 49 | 93 | 0 | 155 | 39 |
| 1996 | 2，378 | 1，374 | 74 | 38 | 109 | 0 | 159 | 43 |

AVERAGE EMPLOYEE RETIREMENT BENEFITS PAYABLE

| Year <br> Ended | Average <br> Annual Benefit | \% <br> Increase | Average <br> Annual <br> Benefit at <br> Retirement <br> Current Year | \% <br> Increase | Average <br> Current Age of Retirees | Average <br> Age at <br> Retirement Current Year | Average Years of Service at Retirement Cuirent Year |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1980 | \$3,765.74 |  | \$5,250.68 |  | 71.8 | 65.4 | 21.4 |
| 1981 | 4,111.60 | 9.2\% | 5,756.53 | 9.6\% | 71.0 | 64.9 | 22.3 |
| 1982 | 4,433.95 | 7.8\% | 7,129.16 | 23.8\% | 72.1 | 64.6 | 23.8 |
| 1983 | 4,774.89 | 7.7\% | 7,520.11 | 5.5\% | 72.1 | 65.3 | 24.0 |
| 1984 | 5,315.46 | 11.3\% | 9,226.74 | 22.7\% | 72.7 | 65.9 | 25.3 |
| 1985 | 5,867.92 | 10.4\% | 10,456.00 | 13.3\% | 72.4 | 64.8 | 25.5 |
| 1986 | 6,730.00 | 14.7\% | 12,485.10 | 19.4\% | 72.4 | 64.9 | 27.0 |
| 1987 | 7,934.57 | 17.9\% | ! 13,822.53 | 10.7\% | 72.3 | 65.0 | 28.0 |
| 1988 | 8,516.46 | 7.3\% | 13,047.88 | (5.6)\% | 72.6 | 65.0 | 27.5 |
| 1989 | 9,035.92 | 6.1\% | 12,581.68 | (3.6) \% | 72.6 | 64.7 | 26.4 |
| 1990 | 10,045.29 | 11.2\% | 15,731.97 | 25.0\% | 72.6 | 64.6 | 28.1 |
| 1991 | 10,807.31 | 7.6\% | 16,443.69 | 4.5\% | 73.0 | 64.2 | 27.0 |
| 1992 | 11,586.22 | 7.2\% | 17,010.22 | 3.4\% | 73.2 | 65.2 | 27.1 |
| 1993 | 13,514.91 | 16.6\% | 21,804.15 | 28.2\% | 72.2 | 63.6 | 30.4 |
| 1994 | 14,059.49 | 4.0\% | 15,866.17 | (27.2)\% | 72.7 | 63.3 | 23.2 |
| 1995 | 14,796.91 | 5.2\% | 20,633.82 | 30.0\% | 72.9 | 64.0 | 27.7 |
| 1996 | 15,475.51 | 4.6\% | 21,018.93 | 1.9\% | 73.3 | 61.4 | 25.9 |

HISTORY OF AVERAGE ANNUAL SALARIES

| Year End | Members in Service ${ }^{1}$ | Percent Increase | Annual Salaries | Percent Increase | Average Salary | Percent Increase ${ }^{2}$ | Actuarial Salary Assumption | CPI <br> Chicago |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1966 | 7,995 |  | \$47,598,552 |  | \$5,954 |  | 1.00\% | 2.8\% |
| 1967 | 8,102 | 1.3\% | 52,268,304 | 9.8\% | 6,451 | 8.4\% | 1.75\% | 2.8\% |
| 1968 | 7,891 | (2.6)\% | 56,165,136 | 7.5\% | 7,118 | 10.3\% | 1.75\% | 4.2\% |
| 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\% | 5.7\% |
| 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\% | 3.0\% |
| 1973 | 6,752 | (3.1)\% | 73,108,848 | 4.5\% | 10,828 | 7.9\% | 3.50\% | 6.3\% |
| 1974 | 6,638 | (1.7)\% | 78,526,728 | 7.4\% | 11,830 | 9.3\% | $5.00 \%$ | 10.6\% |
| 1975 | 7,032 | 5.9\% | 89,276,280 | 13.7\% | 12,696 | 7.3\% | 5.00\% | 8.0\% |
| 1976 | 6,811 | (3.1)\% | 90,487,008 | 1.4\% | 13,285 | 4.6\% | 5.00\% | 4.7\% |
| 1977 | 6,752 | (0.9) \% | 98,029,296 | 8.3\% | 14,519 | 9.3\% | 5.00\% | 6.3\% |
| 1978 | 6,613 | (2.1) \% | 103,399,152 | 5.5\% | 15,636 | 7.7\% | 5.00\% | 8.5\% |
| 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\% | 14.5\% |
| 1981 | 5,765 | (1.4)\% | 118,054,512 | 8.5\% | 20,478 | 10.0\% | 5.00\% | 9.5\% |
| 1982 | 5,97.0 | 3.6\% | 134,293,920 | 13.8\% | 22,495 | 9.9\% | 6.00\% | 6.9\% |
| 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\% |
| $1985{ }^{2}$ | 5,138 | (3.8)\% | 125,594,688 | (4.4) \% | 24,444 | (0.6)\% | 6.00\% | 3.8\% |
| 1986 | 4,844 | (5.7)\% | 128,601,816 | 2.4\% | 26,549 | 8.6\% | 6.00\% | 2.1\% |
| 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 | 10.1\% | 6.00\% | 5.0\% |
| 1990 | 4,498 | (2.0)\% | 145,612,704 | 2.5\% | 32,373 | 4.7\% | 6.00\% | 5.4\% |
| 1991 | 4,304 | (4.3)\% | 149,054,136 | 2.4\% | 34,632 | 7.0\% | 6.00\% | 4.0\% |
| 1992 | 4,022 | (6.6)\% | 141,618,648 | (5.0) \% | 35,211 | 1.7\% | 6.00\% | 3.0\% |
| 1993 | 3,867 | (3.9) \% | 147,076,752 | 3.9\% | 38,034 | 8.0\% | 6.00\% | 3.0\% |
| 1994 | 3,891 | 0.6\% | 155,213,016 | 5.5\% | 39,890 | 4.9\% | 6.00\% | 2.2\% |
| 1995 | 3,832 | (1.5) \% | 152,996,856 | (1.4) \% | 39,926 | 0.1\% | 6.00\% | 3.2\% |
| $1996{ }^{3}$ | 3,785 | (1.2)\% | 162,276,840 | 6.1\% | 42,873 | 7.4\% | 6.00\% | 2.7\% |

## Average Increase (Decrease) for the

 Last 5 Years$2.8 \%$

[^4]
## Exhibit N

## HISTORY OF NEW ANNUTIES GRANTED ${ }^{1}$ <br> 1975-1996

| Year | A | B | C | D | E | F | G |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| $1975^{2}$ | 136 | 76 | 212 | 91 | 0 | 91 | 303 |
| 1976 | 139 | 69 | 208 | 34 | 41 | 75 | 283 |
| 1977 | 133 | 87 | 220 | 43 | 36 | 79 | 299 |
| 1978 | 182 | 86 | 268 | 39 | 41 | 80 | 348 |
| 1979 | 141 | 73 | 214 | 29 | 64 | 93 | 307 |
| 1980 | 187 | 81 | 268 | 34 | 60 | 94 | 362 |
| 1981 | 156 | 77 | 233 | 32 | 51 | 83 | 316 |
| 1982 | 120 | 53 | 173 | 38 | 52 | 90 | 263 |
| 1983 | 128 | 46 | 174 | 35 | 68 | 103 | 277 |
| 1984 | 169 | 54 | 223 | 24 | 56 | 80 | 303 |
| 1985 | 146 | 29 | 175 | 36 | 59 | 95 | 270 |
| 1986 | 188 | 53 | 241 | 29 | 51 | 80 | 321 |
| 1987 | 155 | 35 | 190 | 26 | 64 | 90 | 280 |
| 1988 | 121 | 33 | 154 | 13 | 70 | 83 | 237 |
| 1989 | 98 | 34 | 132 | 23 | 65 | 88 | 220 |
| 1990 | 123 | 32 | 155 | 21 | 66 | 87 | 242 |
| 1991 | 148 | 22 | 170 | 19 | 70 | 89 | 259 |
| 1992 | 166 | 22 | 188 | 22 | 65 | 87 | 275 |
| 1993 | 399 | 40 | 439 | 15 | 80 | 95 | 534 |
| 1994 | 44 | 7 | 51 | 7 | 62 | 69 | 120 |
| 1995 | 85 | 19 | 104 | 12 | 75 | 87 | 191 |
| 1996 | 76 | 11 | 87 | 11 | 66 | 77 | 164 |

## Legend of Headings

A: Male Annuitants
B: Female Annuitants
C: Total Annuitants
D: Widows/Widowers of Deceased Employees
E: Widows/Widowers of Deceased Annuitants
F: Total Widows/Widowers
G: Total New
${ }^{1}$ Does not include employees and widows who went on annuity and died during the same year.
${ }^{2}$ No differentiation between widows of deceased employees or annuitants in 1975.

## HISTORY OF TOTAL ANNUITIES Employee Annuitants (Male and Female)

| Year End | Number of Annuitants | Total Annuities | Average Annuities |
| :---: | ---: | ---: | ---: |
| 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 | $19,820,563$ | 7,935 |
| 1988 | 2,494 | $21,240,063$ | 8,516 |
| 1989 | 2,476 | $22,372,931$ | 9,036 |
| 1990 | 2,481 | $24,922,371$ | 10,045 |
| 1991 | 2,501 | $27,029,083$ | 10,807 |
| 1992 | 2,534 | $29,359,490$ | 11,586 |
| 1993 | 2,802 | $37,868,791$ | 13,515 |
| 1994 | 2,680 | $37,679,445$ | 14,059 |
| 1995 | 2,600 | $38,471,969$ | 14,797 |
| 1996 | 2,537 | $39,261,371$ | 15,476 |

Widow/Widower Annuitants (Not Including Compensation)

| 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 | $2,610,422$ | 2,129 |
| 1987 | 1,240 | $3,654,798$ | 2,947 |
| 1988 | 1,265 | $3,820,665$ | 3,020 |
| 1989 | 1,295 | $4,039,290$ | 3,119 |
| 1990 | 1,317 | $5,292,391$ | 4,019 |
| 1991 | 1,335 | $5,502,954$ | 4,122 |
| 1992 | 1,359 | $5,743,428$ | 4,226 |
| 1993 | 1,398 | $6,077,755$ | 4,347 |
| 1994 | 1,403 | $6,264,691$ | 4,465 |
| 1995 | 1,427 | $6,586,402$ | 4,616 |
| 1996 | 1,417 | $6,777,664$ | 4,783 |

## HISTORY OF BENEFIT EXPENSES BY TYPE

|  | Employee | Widow | Children's | Ordinary | Duty | Hospitalization |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year | Annuities | Annuities | Aunuities | Disabilities | Disabilities | Benefits | Other ${ }^{1}$ | Total Benefits |
| 1978 | \$6,745,093 | \$1,337,886 | \$135,739 | \$1,105,370 | \$369,582 | \$0 | \$70,369 |  |
| 1979 | 7,502,177 | 1,462,651 | 118,710 | 1,317,124 | 329,057 | 0 | 65,448 | 10,795,167 |
| 1980 | 8,591,787 | 1,614,326 | 118,864 | 1,408,837 | 365,269 | 0 | 62,208 | 12,161,291 |
| 1981 | 9,310,966 | 1,713,058 | 122,200 | 1,385,606 | 297,087 | 0 | 51,974 | 12,880,891 |
| 1982 | 10,193,364 | 1,832,665 | 110,911 | 1,284,329 | 382,788 | 0 | 47,378 | 13,851,435 |
| 1983 | 10,909,532 | 2,035,247 | 98,840 | 1,214,325 | 522,071 | 0 | 48,947 | 14,828,962 |
| 1984 | 12,236,436 | 2,229,432 | 91,720 | 1,257,938 | 726,190 | 0 | 40,592 | 16,582,308 |
| 1985 | 13,493,966 | 2,447,498 | 102,680 | 1,419,709 | 977,159 | 45,502 | 29,735 | 18,516,249 |
| 1986 | 15,582,979 | 2,571,348 | 95,080 | 1,285,079 | 1,032,647 | 283,945 | 30,394 | 20,881,472 |
| 1987 | 17,927,108 | 2,702,842 | 92,200 | 1,208,314 | 1,211,599 | 298,674 | 24,860 | 23,465,597 |
| 1988 | 20,682,766 | 3,743,668 | 127,950 | 1,191,429 | 1,370,321 | 309,744 | 41,810 | 27,467,688 |
| 1989 | 21,953,375 | 3,931,392 | 117,030 | 1,140,845 | 1,354,436 | 435,236 | 33,869 | 28,966,183 |
| 1990 | 23,449,216 | 4,276,814 | 136,620 | 1,186,935 | 1,173,540 | 1,784,878 | 21,180 | 32,029,183 |
| 1991 | 26,291,859 | 5,410,449 | 142,200 | 1,162,249 | 1,213,782 | 1,191,367 | 23,531 | 35,435,437 |
| 1992 | 28,557,579 | 5,668,669 | 140,310 | 1,176,769 | 1,317,890 | 1,218,448 | 21,610 | 38,101,275 |
| 1993 | 33,538,008 | 5,964,160 | 125,579 | 923,850 | 1,206,785 | 1,564,869 | 18,302 | 43,341,553 |
| 1994 | 37,739,455 | 6,170,546 | 119,708 | 968,551 | 1,056,507 | 1,581,929 | 11,720 | 47,648,416 |
| 1995 | 38,163,745 | 6,477,852 | 112,560 | 931,696 | 1,054,608 | 1,546,446 | 5,943 | 48,292,850 |
| 1996 | 38,961,283 | 6,661,485 | 121,102 | 860,543 | 1,005,569 | 1,516,537 | 2,646 | 49,129,165 |

${ }^{1}$ Includes compensation annuities, supplemental annuities, supplementary payments, Reciprocal Act reimbursements.

| Percent of Total Benefits |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1978 | 69.08\% | 13.70\% | 1.39\% | 11.32\% | 3.79\% | 0.00\% | 0.72\% |  |
| 1979 | 69.50\% | 13.55\% | 1.10\% | 12.20\% | 3.05\% | 0.00\% | $0.61 \%$ |  |
| 1980 | 70.65\% | 13.27\% | 0.98\% | 11.58\% | 3.00\% | 0.00\% | 0.51\% |  |
| 1981 | 72.29\% | 13.30\% | 0.95\% | 10.76\% | 2.31\% | 0.00\% | 0.40\% |  |
| 1982 | 73.59\% | 13.23\% | 0.80\% | 9.27\% | 2.76\% | 0.00\% | 0.34\% |  |
| 1983 | 73.57\% | 13.72\% | 0.67\% | 8.19\% | 3.52\% | 0.00\% | 0.33\% |  |
| 1984 | 73.79\% | 13.44\% | 0.55\% | 7.59\% | 4.38\% | 0.00\% | 0.24\% |  |
| 1985 | 72.88\% | 13.22\% | 0.55\% | 7.67\% | 5.28\% | 0.25\% | 0.16\% |  |
| 1986 | 74.63\% | 12.31\% | 0.46\% | 6.15\% | 4.95\% | 1.36\% | 0.15\% |  |
| 1987 | 76.40\% | 11.52\% | 0.39\% | 5.15\% | 5.16\% | 1.27\% | 0.11\% |  |
| 1988 | 75.30\% | 13.63\% | 0.47\% | 4.34\% | 4.99\% | 1.13\% | 0.15\% |  |
| 1989 | 75.79\% | 13.57\% | 0.40\% | 3.94\% | 4.68\% | 1.50\% | 0.12\% |  |
| 1990 | 73.21\% | 13.35\% | 0.43\% | $3.71 \%$ | 3.66\% | 5.57\% | 0.07\% |  |
| 1991 | 74.20\% | 15.27\% | 0.40\% | 3.28\% | 3.43\% | 3.36\% | 0.07\% |  |
| 1992 | 74.95\% | 14.88\% | 0.37\% | 3.09\% | 3.46\% | 3.20\% | 0.06\% |  |
| 1993 | 77.38\% | 13.76\% | 0.29\% | 2.13\% | 2.78\% | 3.61\% | 0.04\% |  |
| 1994 | 79.20\% | 12.95\% | 0.25\% | 2.03\% | 2.22\% | 3.32\% | 0.02\% |  |
| 1995 | 79.03\% | 13.41\% | 0.23\% | 1.93\% | 2.18\% | 3.20\% | 0.01\% |  |
| 1996 | 79.30\% | 13.56\% | 0.25\% | 1.75\% | 2.05\% | 3.09\% | 0.01\% |  |
| Percent Increase from Year to Year |  |  |  |  |  |  |  |  |
| 1979 | 11.22\% | 9.33\% | (12.55)\% | 19.16\% | (10.97)\% | 0.00\% | (6.99)\% | 10.56\% |
| 1980 | 14.52\% | 10.37\% | 0.13\% | 6.96\% | 11.00\% | 0.00\% | (4.95) \% | 12.66\% |
| 1981 | 8.37\% | 6.12\% | 2.81\% | (1.65)\% | (18.67)\% | 0.00\% | (16.45)\% | 5.92\% |
| 1982 | 9.48\% | 6.98\% | (9.24)\% | (7.31)\% | 28.85\% | 0.00\% | (8.84)\% | 7.53\% |
| 1983 | 7.03\% | 11.05\% | (10.88) \% | (5.45)\% | 36.39\% | 0.00\% | 3.31\% | 7.06\% |
| 1984 | 12.16\% | 9.54\% | (7.20)\% | 3.59\% | 39.10\% | 0.00\% | (17.07) \% | 11.82\% |
| 1985 | 10.28\% | 9.78\% | 11.95\% | 12.86\% | 34.56\% | 0.00\% | (26.75)\% | 11.66\% |
| 1986 | 15.48\% | 5.06\% | (7.40) \% | (9.48)\% | 5.68\% | 524.03\% | 2.22\% | 12.77\% |
| 1987 | 15.04\% | 5.11\% | (3.03) \% | (5.97)\% | 17.33\% | 5.19\% | (18.21)\% | 12.38\% |
| 1988 | 15.37\% | 38.51\% | 38.77\% | (1.40)\% | 13.10\% | 3.71\% | 68.18\% | 17.06\% |
| 1989 | 6.14\% | 5.01\% | (8.53) \% | (4.25)\% | (1.16)\% | 40.51\% | (18.99)\% | 5.46\% |
| 1990 | 6.81\% | 8.79\% | 16.74\% | 4.04\% | (13.36)\% | 310.09\% | (37.46)\% | 10.57\% |
| 1991 | 12.12\% | 26.51\% | 4.08\% | (2.08)\% | 3.43\% | (33.25)\% | 11.10\% | 10.63\% |
| 1992 | 8.62\% | 4.77\% | (1.33) \% | 1.25\% | 8.58\% | 2.27\% | (8.16)\% | 7.52\% |
| 1993 | 17.44\% | $5.21 \%$ | (10.50)\% | (21.49)\% | (8.43)\% | 28.43\% | (15.31)\% | 13.75\% |
| 1994 | 12.53\% | 3.46\% | (4.68) \% | 4.84\% | (12.45)\% | 1.09\% | (35.96)\% | 9.94\% |
| 1995 | 1.12\% | 4.98\% | (5.97) \% | (3.81) \% | (0.18)\% | (2.24)\% | (49.29)\% | 1.35\% |
| 1996 | 2.09\% | 2.83\% | $7.59 \%$ | (7.64)\% | (4.65)\% | (1.93)\% | (55.48)\% | 1.73\% |

## HISTORY OF INVESTMENT YIELDS

Book Value

| Year | Book Value: |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Investment Yield on Total Assets |  | Investment Yield on Invested Assets |  |
|  | Excluding Gains/Losses | Including Gains/Losses | Excluding Gains/Losses | Including Gains/Losses |
| 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\% | 11.14\% 11.07\% | 9.79\% 9.72\% | $11.64 \% \quad 11.57 \%$ |
| 1984 | 9.67\% 9.58\% | 8.88\% 8.79\% | 10.12\% 10.03\% | 9.30\% $\quad 9.21 \%$ |
| 1985 | 8.89\% 8.72\% | $16.34 \% \quad 16.17 \%$ | 9.27\% $9.10 \%$ | 17.07\% 16.89\% |
| 1986 | 7.44\% 7.14\% | $16.06 \% \quad 15.74 \%$ | 7.72\% $7.41 \%$ | 16.69\% 16.34\% |
| 1987 | 6.50\% 6.20\% | $11.90 \% \quad 11.59 \%$ | $6.71 \%$ 6.40\% | $12.29 \% \quad 11.96 \%$ |
| 1988 | $6.81 \%$ 6.55\% | 7.78\% 7.52\% | 7.00\% 6.73\% | 7.99\% $\quad 7.72 \%$ |
| 1989 | 7.06\% $6.71 \%$ | 11.50\% 11.14\% | 7.21\% 6.85\% | 11.75\% $\quad 11.38 \%$ |
| 1990 | 7.05\% 6.69\% | 7.67\% $7.31 \%$ | 7.22\% 6.85\% | 7.85\% $7.48 \%$ |
| 1991 | $6.45 \% \quad 6.11 \%$ | 10.53\% 10.18\% | 6.61\% 6.27\% | $10.80 \%$ 10.44\% |
| 1992 | 5.93\% 5.56\% | 9.00\% 8.63\% | 6.06\% 5.69\% | 9.21\% 8.83\% |
| 1993 | 5.14\% $4.75 \%$ | 11.72\% 11.31\% | 5.23\% 4.84\% | 11.95\% 11.53\% |
| 1994 | 5.20\% 4.85\% | $6.52 \% \quad 6.17 \%$ | 5.30\% 4.94\% | $6.64 \% \quad 6.28 \%$ |
| 1995 | 5.30\% $4.95 \%$ | 10779\% 10.43\% | 5.38\% $5.03 \%$ | 10.96\% $\quad 10.60 \%$ |
| 1996 | 4.98\% $4.62 \%$ | 12.16\% $\quad 11.78 \%$ | 5.02\% $\quad$ 4.66\% | $12.27 \% \quad 11.88 \%$ |
| 5-yr avg | $5.31 \% \quad 4.95 \%$ | 10.04\% 9.66\% | 5.40\% 5.03\% | 10.21\% $9.82 \%$ |


|  | Actuarial | Average |  |  | Market Value ${ }^{1}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |
|  |  | Insurance | 30 Year | 3-Month | Yield on | on Invested |
| Year | Assumption | Company | Treasury | Treasury Bills | Total Assets | Assets |
| 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\% | 7.68\% |
| 1985 | 7.00\% | 9.63\% | 10.79\% | 7.470\% | 22.41\% | 23.37\% |
| 1986 | 7.50\% | 9.35\% | 7.80\% | 5.970\% | 12.33\% | 12.77\% |
| 1987 | 7.50\% | 9.10\% | 8.59\% | 5.820\% | 3.67\% | 3.78\% |
| 1988 | 7.50\% | 9.03\% | 8.96\% | 6.690\% | 10.84\% | 11.09\% |
| 1989 | 8.00\% | 9.10\% | 8.45\% | 8.120\% | 16.95\% | 17.32\% |
| 1990 | 8.00\% | 8.89\% | 8.61\% | 7.510\% | 2.46\% | 2.52\% |
| 1991 | 8.00\% | 8.63\% | 8.14\% | 5.420\% | 19.28\% | 19.77\% |
| 1992 | 8.00\% | 8.08\% | 7.67\% | 3.450\% | 7.94\% | 8.11\% |
| 1993 | 8.00\% | 7.52\% | 6.59\% | 3.020\% | 9.81\% | 9.99\% |
| 1994 | 8.00\% | 7.14\% | 7.37\% | 4.290\% | (0.91)\% | (0.92)\% |
| 1995 | 8.00\% | 7.34\% | 6.05\% | 5.150\% | 23.03\% | 23.39\% |
| 1996 | 8.00\% | N/A | 6.71\% | 5.020\% | 10.44\% | 10.52\% |
| 5-Year Average |  | 7.74\% | 6.88\% | 4.186\% | 10.06\% | 10.22\% |

${ }^{1}$ Investment income is net of investment expense.
Notes: Yield = Investment Income/.5(Beginning Assets + End Assets - Investment Income) Bonds valued at amortized cost, 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.

## LEGISLATIVE CHANGES

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.


## 1990 Session

SB 136 - Amends Chapter 120, Paragraph 671 of the Revenue Act to provide for a separate listing on the tax bill of the dollar amount of tax due from the person assessed which is allocable to a tax levied under the Illinois Perision Code, or any other tax levied by a municipality or township for public pension or retirement purposes. Effective January 1, 1990.
SB 1951 - Signed January 14, 1991. Beginning for withdrawals on or after January 1, 1991, annuity payments will be made as of the first day of the calendar month during the annuity payment period.

- $2.2 \%$ benefit accrual rate for employees retiring on or after July $1,1990$.
- No discount for employee age less than 60 if employee has at least 30 years of service and retires on or after July 1, 1990.
- Minimum employee annuity of $\$ 350$ and minimum spouse of $\$ 300$ under certain conditions.
- Spouses and widows of employees retiring or dying in service on or after July 1, 1990 with 20 or more years of service at age 55 or over will be eligible for half of the employee's annuity discounted $.25 \%$ for each month the spouse or widow is less than 55 .
- Retroactive eligibility for 35 years no discount and spouse and widow annuities computed as half of employee annuity.
- Refund in lieu of $\$ 300$ annuity.
- Disability benefit retroactive one year from application; duty disability deductions in lieu for heart attack or stroke; $10 \%$ increase in duty disability benefit January 1 of the sixth year.
- Collateral for securities lending expanded.
- Fractional payment for refund repayment and temporary service authorized. Credit established by fractional payment shall be earliest service for which credit may be established.


## 1991 Session

- No changes.


## 1992 Session

SB 1650 - Signed January 25, 1993.

- Transfer próvisions for County elected officers and judges.
- Early Retirement Incentive was created for withdrawals from December 31, 1992 to June 30, 1993.
- Requires a total of 20 years of service (with at least 10 in this fund, and up to 5 purchased under ERI).
- Requires age 55 or older.
- Requires an election form to be filed before June 1, 1993.


## LEGISLATIVE CHANGES

- Requires a member to be a current contributor on November 1, 1992 and have not previously retired under this Article.
- Provides for elimination of the age discount for employees 55-60.
- Provides for $80 \%$ maximum final average salary compared to the present $75 \%$.
- Provides for an optional purchase of up to 5 years of service credit for $4.25 \%$ of the November 1, 1992 salary.
- Provides for a 24 -month option to pay for ERI service.
- Provides for a tax levy derived from ERI contributions.


## 1993 Session

- No changes.

1994 Session

- No changes.

1995 Session
SB 114 - Approved July 14, 1995.

- The amount of earnings that may be taken into account by any retirement system is limited to the maximum dollar limitation specified in Section 401(a)(17) of the Internal Revenue Code, except for persons who became participants before 1996.
- The Fund is authorized to make certain involuntary distributions required by Section 401(a)(9): of the Internal Revenue Code.

SB 424 - Approved July 7, 1995.

- The Pension Laws Commission was created as a legislative support services agency.


## 1996 Session

SBJPA - On August 20, 1996 the Small Business Job Protection Act was signed by President Clinton.

- Treatment of governmental plans under Code Section 415:
- Rule limiting annual benefit to $100 \%$ of the average of the highest 3 year compensation no longer applies.
- Excess benefit plans are permitted to provide participants with benefits in excess of the Code Section 415 limits.
- Early retirement reduction does not apply to certain survivor and disability benefits.
- The definition of compensation now includes elective deferrals.
- Taxation of distributions:
- \$5,000 death benefit exclusion was repealed for deaths after August 20, 1996.
- 5 year averaging for lump sum distributions was repealed effective January 1, 2000.
- Annuity payments will be taxed according to a simplified general rule which uses investment and age as of annuity starting date for annuities which start on or after November 19, 1996.


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HISTORY OF RECOMMENDED EMPLOYER MULTIPLES AND TAXES LEVIED

| Year of <br> Report | Statutory <br> Multiple | Normal <br> Cost Plus <br> Interest | Normal Cost <br> Plus 40 Year <br> Amortization | Normal Cost <br> Plus 40 Year <br> \% of Salary <br> Amortization |
| :--- | :---: | :---: | ---: | ---: |
| 1980 | 1.37 | 1.96 | 2.04 | 1.67 |
| 1981 | 1.37 | 1.59 | 1.67 | 1.30 |
| $1982^{\mathrm{a}}$ | 1.37 | 1.34 | 1.40 | 1.03 |
| $1983^{\mathrm{b}}$ | 1.37 | 1.54 | 1.60 | 1.21 |
| 1984 | 1.37 | 1.58 | 1.63 | 1.30 |
| $1985^{\mathrm{a}, \mathrm{b}}$ | 1.37 | 1.60 | 1.64 | 1.33 |
| $1986^{\mathrm{a}, \mathrm{b}}$ | 1.37 | 0.99 | 1.00 | 0.94 |
| $1987^{\mathrm{a}, \mathrm{b}}$ | 1.37 | 1.13 | 1.15 | 1.03 |
| $1988^{\mathrm{a}}$ | 1.37 | 1.03 | 1.04 | 0.98 |
| $1989^{\mathrm{a}, \mathrm{b}}$ | 1.37 | 0.56 | 0.56 | 0.56 |
| $1990^{\mathrm{a}, \mathrm{b}}$ | 1.37 | 1.01 | 1.02 | 0.93 |
| $1991^{\mathrm{b}}$ | 1.37 | 0.93 | 0.94 | 0.90 |
| 1992 | 1.37 | 0.80 | 0.80 | 0.80 |
| $1999^{\mathrm{b}}$ | 1.37 | 0.83 | 0.83 | 0.83 |
| $1994^{\mathrm{b}}$ | 1.37 | 0.64 | 0.64 | 0.64 |
| 1995 | 1.37 | 0.75 | 0.75 | 0.75 |
| 1996 | 1.37 | 0.66 | 0.66 | 0.66 |


| Tax Levy Year | City | Park | Tax Levy Total |
| :---: | ---: | ---: | ---: |
| 1980 | $\$ 12,211,000$ | $\$ 29,000$ | $\$ 12,240,000$ |
| 1981 | $12,924,000$ | 27,000 | $12,951,000$ |
| 1982 | $13,073,000$ | 27,000 | $13,100,000$ |
| 1983 | $14,231,000$ | 29,000 | $14,260,000$ |
| 1984 | $15,606,000$ | 32,000 | $15,638,000$ |
| 1985 | $15,618,000$ | 29,000 | $15,647,000$ |
| 1986 | $15,373,000$ | 25,000 | $15,398,000$ |
| 1987 | $15,260,000$ | 21,000 | $15,281,000$ |
| 1988 | $15,380,000$ | 20,000 | $15,400,000$ |
| 1989 | $15,442,000$ | 14,000 | $15,456,000$ |
| 1990 | $15,261,000$ | 12,000 | $15,273,000$ |
| 1991 | $16,382,000$ | 10,000 | $16,392,000$ |
| 1992 | $16,835,000$ | 11,000 | $16,846,000$ |
| 1993 | $18,036,000$ | 11,000 | $18,047,000$ |
| 1994 | $17,069,000$ | 12,000 | $17,081,000$ |
| 1995 | $18,726,000$ | 9,500 | $18,75,500$ |
| 1996 | $20,037,300$ | 6,900 | $20,044,200$ |
| 1997 | $19,645,400$ | 4,300 | $19,649,700$ |

${ }^{2}$ Change in actuarial assumptions.
${ }^{\mathrm{b}}$ Change in benefits.

## HISTORY OF FINANCIAL INFORMATION <br> History of Change in Unfunded Liability

| Year | Salary Scale | Investment | Contribution | Amendments |  |  |
| ---: | :---: | ---: | ---: | ---: | :--- | :--- |
| 1981 | $\$ 12,205,164$ | $\$ 4,852,598$ | $\$ 2,104,112$ | $\$ 0$ |  |  |
| 1982 | $13,090,805$ | $(4,232,954)$ | $(249,949)$ | 0 |  |  |
| 1983 | $4,185,219$ | $(12,540,094)$ | $(805,111)$ | $28,057,130$ | HB 380, HB 1144 |  |
| 1984 | $(13,893,652)$ | $(6,915,903)$ | $(708,947)$ | 0 |  |  |
| 1985 | $(20,313,749)$ | $(33,560,632)$ | $(404,023)$ | $17,491,073$ | HB 398 |  |
| 1986 | $5,125,287$ | $(38,156,363)$ | $(1,490,690)$ | $15,144,096$ | HB 2630 |  |
| 1987 | $(4,287,957)$ | $(21,518,841)$ | $(6,348,853)$ | $29,787,872$ | HB 2715 | 0 |
| 1988 | $(17,739,334)$ | $(1,525,244)$ | $(4,261,332)$ |  |  |  |
| 1989 | $15,101,648$ | $(23,284,941)$ | $(6,570,202)$ | $20,350,471$ | SB 95, HB 332 |  |
| 1990 | $(5,117,094)$ | $2,118,850$ | $(12,015,013)$ | $42,423,925$ | SB 1951 |  |
| 1991 | $4,169,961$ | $(14,867,104)$ | $(6,632,943)$ | 341,496 | SB 1951, | 0 |
| 1992 | $(18,990,267)$ | $(7,386,966)$ | $(6,577,262)$ |  |  |  |
| 1993 | $7,962,153$ | $(26,152,154)$ | $(12,818,511)$ | $17,246,336$ | SB 1650 | 0 |
| 1994 | $(5,006,319)$ | $15,775,880$ | $(9,930,961)$ |  |  |  |
| 1995 | $(27,371,677)$ | $(21,760,538)$ | $(12,471,281)$ | 0 |  |  |
| 1996 | $6,691,153$ | $(36,656,357)$ | $(13,139,522)$ | 0 |  |  |
| Totals | $(\$ 44,188,659)$ | $(\$ 225,810,763)$ | $(\$ 92,320,488)$ | $\$ 170,842,399$ |  |  |


| Year | Change in <br> Assumptions |  | Miscellaneous |
| :---: | :---: | ---: | :---: |
| 1981 | $\$ 0$ | $(\$ 12,538,029)$ | Total |
| 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 | $(39,817,812)$ | $2,260,506$ | $(31,960,330)$ |
| 1990 | $10,229,489$ | $4,280,144$ | $41,920,301$ |
| 1991 | 0 | $2,282,873$ | $(14,705,717)$ |
| 1992 | 0 | $(2,097,210)$ | $(35,051,705)$ |
| 1993 | 0 | $9,414,432$ | $(4,347,744)$ |
| 1994 | 0 | $(15,131,496)$ | $(14,292,896)$ |
| 1995 | 0 | $11,837,154$ | $(49,766,342)$ |
| 1996 | 0 | $(6,307,818)$ | $(49,412,544)$ |
| Totals | $(\$ 73,664,622)$ | $\$ 19,944,536$ | $(\$ 245,197,597)$ |

Over the last 16 years, the unfunded liability has decreased by $\$ 245.2$ million. The biggest component of increase over the same period has been benefit changes which account for $\$ 170.8$ million; followed by miscellaneous changes due to actuarial experience (retirement, disability, death and withdrawal) of $\$ 19.9$ million. The components which reduced the unfunded liability over this period were investment earnings in excess of the assumed amount of $\$ 225.8$ million; followed by more than adequate contributions (on the normal cost plus interest only basis) of $\$ 92.3$ million; followed by changes in actuarial assumptions of $\$ 73.7$ million; followed by salary increases less than expected of $\$ 44.2$ million.

## HISTORY OF FINANCIAL INFORMATION Accrued and Unfunded Liabilities

| Year <br> End | Accrued <br> Liability | Assets at Amortized Cost | Funded Ratio | Unfunded <br> Accrued <br> Liability <br> (Surplus) | Payroll | Unfunded Accrued \% Payrol (Surplus) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1979 | \$323,368,034 | \$220,810,778 | 68.3\% | \$102,557,256 | \$105,825,264 | 97\% |
| 1980 | 345,364,820 | 238,842,772 | 69.2\% | 106,522,048 | 108,854,496 | 98\% |
| 1981 | 367,980,498 | 254,234,605 | 69.1\% | 113,745,893 | 118,054,512 | 96\% |
| $1982^{\text {a }}$ | 391,353,993 | 281,708,565 | 72.0\% | 109,645,428 | 134,293,920 | 82\% |
| $1983^{\text {b }}$ | 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\% |
| $1985^{\text {a, b }}$ | 495,844,974 | 420,554,173 | 84.8\% | 75,290,801 | 125,594,688 | 60\% |
| $1986^{\text {a, b }}$ | 507,984,848 | 489,403,006 | 96.3\% | 18,581,842 | 128,601,816 | 14\% |
| $1987^{\text {a, b }}$ | 583,284,026 | 546,947,052 | 93.8\% | 36,336,974 | 135,453,096 | 27\% |
| $1988{ }^{\text {a }}$ | 604,440,661 | 584,899,234 | 96.8\% | 19,541,427 | 132,685,608 | 15\% |
| $1989^{\text {a }, ~ b ~}$ | 633,894,540 | 646,313,443 | 102.0\% | $(12,418,903)$ | 142,024,296 | (9)\% |
| $1990^{\text {a b b }}$ | 716,604,604 | 687,103,206 | 95.9\% | 29,501,398 | 145,612,704 | 20\% |
| $1991{ }^{\text {b }}$ | 761,056,602 | 746,260,921 | 98.1\% | 14,795,681 | 149,054,136 | 10\% |
| 1992 | 777,385,162 | 797,641,186 | 102.6\% | $(20,256,024)$ | 141,618,648 | (14)\% |
| $1993{ }^{\text {b }}$ | 847,293,445 | 871,897,213 | 102.9\% | $(24,603,768)$ | 147,076,752 | (17) \% |
| 1994 | 866,493,209 | 905,389,873 | 104.5\% | $(38,896,664)$ | 155,213,016 | (25)\% |
| 1995 | 890,375,387 | 979,038,393 | 110.0\% | $(88,663,006)$ | 152,996,856 | (58)\% |
| 1996 | 936,623,719 | 1,074,699,269 | 114.7\% | $(138,075,550)$ | 162,276,840 | (85)\% |

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 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1980 | \$97,598,923 | \$85,989,360 | \$183,588,283 | \$238,842,772 | (\$55,254,489) | ) $130.1 \%$ |
| 1981 | 107,291,048 | 88,378,748 | 195,669,796 | 254,234,605 | $(58,564,809)$ | ) $129.9 \%$ |
| $1982^{\text {a }}$ | 113,743,284 | 94,516,563 | 208,259,847 | 281,708,565 | $(73,448,718)$ | ) $135.3 \%$ |
| $1983{ }^{\text {b }}$ | 128,901,825 | 106,730,627 | 235,632,452 | 321,404,078 | $(85,771,626)$ | ) $136.4 \%$ |
| 1984 | 142,713,639 | 111,888,474 | 254,602,113 | 356,809,111 | $(102,206,998)$ | ) $140.1 \%$ |
| $1985{ }^{\text {a }}$ b | 158,514,452 | 117,882,073 | 276,396,525 | 420,554,173 | $(144,157,648)$ | ) $152.2 \%$ |
| $1986^{\text {a, b }}$ | 179,881,434 | 122,432,246 | 302,313,680 | 489,403,006 | $(187,089,326)$ | ) $161.9 \%$ |
| $1987^{\text {a, b }}$ | 215,483,599 | 126,554,299 | 342,037,898 | 546,947,052 | $(204,909,154)$ | ) $159.9 \%$ |
| $1988{ }^{\text {a }}$ | 229,024,543 | 133,793,756 | 362,818,299 | 584,899,234 | $(222,080,935)$ | ) $161.2 \%$ |
| $1989^{\text {a, b }}$ | 241,519,125 | 143,445,325 | 384,964,450 | 646,313,443 | $(261,348,993)$ | ) $167.9 \%$ |
| $1990{ }^{\text {a b b }}$ | 271,401,625 | 150,398,932 | 421,800,557 | 687,103,206 | $(265,302,649)$ | ) $162.9 \%$ |
| $1991{ }^{\text {b }}$ | 291,757,778 | 156,649,525 | 448,407,303 | 746,260,921 | $(297,853,618)$ | ) $166.4 \%$ |
| 1992 | 311,642,762 | 161,298,914 | 472,941,676 | 797,641,186 | $(324,699,510)$ | ) $168.7 \%$ |
| $1993{ }^{\text {b }}$ | 403,591,438 | 152,059,845 | 555,651,283 | 871,897,213 | $(316,245,930)$ | ) $156.9 \%$ |
| 1994 | 395,721,090 | 166,182,247 | 561,903,337 | 905,389,873 | $(343,486,536)$ | ) $161.1 \%$ |
| 1995 | 401,047,985 | 175,400,781 | 576,448,766 | 979,038,393 | $(402,589,627)$ | ) $169.8 \%$ |
| 1996 | 405,010,948 | 187,040,430 | 592,051,378 | 1,074,699,269 | $(482,647,891)$ | ) $181.5 \%$ |

[^5]
# HISTORY OF FINANCIAL INFORMATION 

## Vested (Termination) Liability Test

| Year <br> Fund | Vested <br> Liability | Assets at Amortized Cost | Unfunded <br> Vested <br> Liability <br> (Surplus) | Vested <br> Funded <br> Ratio |
| :---: | :---: | :---: | :---: | :---: |
| 1983 | \$413,979,589 | \$321,404,078 | \$92,575,511 | 77.64\% |
| 1984 | 434,396,250 | 356,809,111 | 77,587,139 | 82.14\% |
| 1985 | 452,742,177 | 420,554,173 | 32,188,004 | 92.89\% |
| 1986 | 485,169,186 | 489,403,006 | $(4,233,820)$ | 100.87\% |
| 1987 | 536,192,096 | 546,947,052 | $(10,754,956)$ | 102.01\% |
| 1988 | 558,761,115 : | 584,899,234 | $(26,138,119)$ | 104.68\% |
| 1989 | 594,007,120 | 646,313,443 | $(52,306,323)$ | 108.81\% |
| 1990 | 658,926,727 | 687,103,206 | $(28,176,479)$ | 104.28\% |
| 1991 | 694,461,459 | 746,260,921 | $(51,799,462)$ | 107.46\% |
| 1992 | 712,967,572 | 797,641,186 | $(84,673,614)$ | 111.88\% |
| 1993 | 759,803,208 | 871,897,213 | $(112,094,005)$ | $114.75 \%$ |
| 1994 | 740,338,167 | 905,389,873 | $(165,051,706)$ | 122.29\% |
| 1995 | 771,670,833 | 979,038,393 | $(207,367,560)$ | 126.87\% |
| 1996 | 804,220,262 | 1,074,699,269 | $(270,479,007)$ | 133.63\% |

## GASB DISCLOSURE

## Plan Description

Any employee of the City of Chicago or the Board of Education 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' Retirement Board Employees' Annuity and Benefit Fund of Chicago (Laboarers' 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 40, Pensions, Article 5/11) 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, 1996 was $\$ 162,276,840$. At December 31, 1996 the Laborers' Plan membership consisted of:

Retirees and beneficiaries currently receiving benefits (includes disabilities) 4,175

Terminated employees entitled to benefits or a refund of contributions but not yet receiving them 1,708

Current employees 3,785

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 $2.2 \%$ per year service 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 if the employee has less than 30 years of service. The original annuity is limited to $75 \%$ 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 $3 \%$ of the original annuity 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.

## GASB DISCLOSURE

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, 1996. Significant actuarial assumptions used in the valuation for 1996 include: (a) a rate of return on the investment of present and future assets of $8 \%$ 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 (not compounded) for employee annuitants age 60 and over. All the assumptions are the same as those used in the last report.

At December 31, 1996, the excess of assets over the pension benefit obligation was $\$ 240,826,040$. At December 31, 1995, this excess was $\$ 182,253,232$.

| Pension Benefit Obligation (PBO) | 1995 | 1996 | 1 |
| :---: | :---: | :---: | :---: |
| APV of Credited Projected Benefits |  |  |  |
| Payable to Retirees and Beneficiaries | \$401,047,985 | \$405,010,948 | 1 |
| Current Employees: |  |  |  |
| Accumulated Employee Contributions | \$175,400,781 | \$187,040,430 | S |
| Payable to Vested and Non-Vested Employees | \$220,336,395 | \$241,821,851 |  |
| Total APV | \$796,785,161 | \$833,873,229 | Q |
| Net Assets Available for Benefits, Amortized Cost ${ }^{1}$ | \$979,038,393 | \$1,074,699,269 |  |
| Unfunded (Assets in Excess of) APV of Credited Projected Benefits | (\$182,253,232) | (\$240,826,040) | I |
| Percentage Funded | 122:87\% | $128.88 \%$ |  |
| Untunded APV as Percent of Payroll | (119.12)\% | (148.40)\% | , |
| arket Value of Net Assets:1995, \$1,104,400,942; 1996, \$1, 200,144,802 |  |  |  |

## GASB DISCLOSURE

## 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.

Employer and employee contribution information at December 31 is as follows:

|  | 1995 | 1996 |
| :--- | ---: | ---: |
| Contribution multiplier | 1.37 | 1.37 |
| City of Chicago contribution, net of reserve for loss in tax collection | $\$ 18,311,622$ | $\$ 19,623,717$ |
| City of Chicago contribution as a percent of covered payroll | $11.80 \%$ | $12.83 \%$ |
| Employee contributions | $\$ 14,610,842$ | $\$ 14,856,703$ |
| Employee contributions as a percent of covered payroll | $9.41 \%$ | $9.71 \%$ |
| Actuarially determined contribution requirement | $\$ 20,451,183$ | $\$ 21,340,898$ |
| Contribution requirement as a percent of covered payroll | $13.18 \%$ | $13.95 \%$ |
| Current year normal cost | $\$ 20,451,183$ | $\$ 21,340,898$ |
| Normal cost as a percent of covered payroll | $13.18 \%$ | $13.95 \%$ |
| Interest only on the unfunded liability | $\$ 0$ | $\$ 0$ |
| Interest only on the unfunded liability as a percent of covered payroll | $0.00 \%$ | $0.00 \%$ |

For the year 1996 (based on a 1996 multiple of 1.37) the City contributed (after tax levy losses of $4 \%$ ) $\$ 19,623,717$ or $12.83 \%$ of payroll. For 1996, the employee contributions were $\$ 14,856,703$ or $9.71 \%$ of payroll. As the current cost requirement for the entry age normal method plus the requirement for interest only on the unfunded liability was $13.95 \%$ of payroll, an excess of $8.59 \%$ of payroll or $\$ 13,139,522$ was contributed. Such contribution is used to amortize the unfunded liability.

It is estimated for 1997 that the contributions will again more than meet the standard. Consideration should also be given to the decline in membership and the future cash flow requirements of the Fund.

## GASB DISCLOSURE

## Annual Actuarial Requirements

|  | A | B | C |  | A |  |  | D |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year | Normal Cost | NC Plus Interest | NC Plus ERISA 40-Year Amortization | $\begin{aligned} & \text { NC Plus } \\ & \text { Increasing \% } \\ & \text { of Salary } \end{aligned}$ |  | Expres <br> Percentag <br> Beginni | as a f Salary of Year |  |
| 1987³ ${ }^{\text {b }}$ | \$18,826,921 | \$20,171,065 | \$20,249,927 | \$19,681,589 | 14.64\% | 15.68\% | 15.75\% | 15.30\% |
| $1988{ }^{\text {a }}$ 6 | 20,008,465 | 22,636,952 | 22,791,167 | 21,679,777 | 14.77\% | 16.71\% | 16.83\% | 16.01\% |
| $1989^{3}$ | 19,803,585 | 21,217,142 | 21,300,076 | 20,702,389 | 14.93\% | 15.99\% | 16.05\% | 15.60\% |
| $1990^{2.6}$ | 17,819,965 | 17,819,965 | 17,819,965 | 17,819,965 | 12.55\% | 12.55\% | 12.55\% | 12.55\% |
| $1991{ }^{\text {a }}$, b | 20,777,427 | 23,048,446 | 23,158,027 | 22,235,069 | 14.27\% | 15:83\% | 15.90\% | 15.27\% |
| $1992{ }^{\text {b }}$ | 21,637,649 | 22,776,621 | 22,831,579 | 22,368,692 | 14.52\% | 15.28\% | 15.32\% | 15.01\% |
| 1993 | 20,261,167 | 20,261,167 | 20,261,167 | 20,261,167 | 14.31\% | 14.31\% | 14.31\% | 14.31\% |
| 1994 ${ }^{\text {b }}$ | 21,316,661 | 21,316,661 | 21,316,661 | 21,316,661 | 14.49\% | 14.49\% | 14.49\% | 14.49\% |
| 1995 | 20,451,183 | 20,451,183 | 20,451,183 | 20,451,183 | 13.18\% | 13.18\% | 13.18\% | 13.18\% |
| 1996 | 21;340,898 | 21,340,898 | 21,340,898 | 21,340,898 | 13.95\% | 13.95\% | 13.95\% | 13.95\% |
| 1997 | 21,544,208 | 21,544,208 | 21,544,208 | 21,544,208 | 13.28\% | 13.28\% | 13.28\% | 13.28\% |

Actual Employer and Employee Contribution

|  | E | F | E | F |
| :--- | :---: | :---: | :---: | :---: |
| Year | Employer | Empioyee | Expressed as a <br> Percentage of Salary <br> Beginning of Year |  |
|  |  |  |  | $11.47 \%$ |

Deficiency (Excess) in Annual Contribution


## GASB DISCLOSURE

## Trend Information

Trend information gives an indication of the progress made in accumulating sufficient assets to pay benefits when due. For all the years 1984 and 1985, the assets were insufficient to cover the pension benefit obligation. For 1986 through 1996, the assets exceeded the amount needed for the pension benefit obligation.

| Year | Assets Available <br> for Benefits <br> as a \% of <br> Pension Benefit <br> Obligation | Unfunded <br> Pension Benefit <br> Obligation (Surplus) <br> as a \% of <br> Covered Payroll <br> End of Year | Contributions <br> as a \% of <br> Covered Payroll <br> Beginning of Year |
| :---: | :---: | :---: | :---: |
| 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 | $113.64 \%$ | $(54.61) \%$ | $11.50 \%$ |
| 1990 | $107.86 \%$ | $(34.39) \%$ | $11.99 \%$ |
| 1991 | $110.44 \%$ | $(47.32) \%$ | $10.98 \%$ |
| 1992 | $115.12 \%$ | $(73.96) \%$ | $11.12 \%$ |
| 1993 | $115.18 \%$ | $(78.12) \%$ | $12.52 \%$ |
| 1994 | $117.06 \%$ | $(85.00) \%$ | $11.53 \%$ |
| 1995 | $122.87 \%$ | $(119.12) \%$ | $11.80 \%$ |
| 1996 | $128.88 \%$ | $(148.40) \%$ | $12.83 \%$ |

## Employer Contributions

Required Normal Cost Plus Interest
Year Only Basis

Required
Statutory

| $\$ 15,037,923$ | $\$ 14,979,650$ | $\$ 15,035,039$ |
| ---: | ---: | ---: |
| $14,290,107$ | $14,765,250$ | $14,765,250$ |
| $9,239,911$ | $14,659,550$ | $14,745,709$ |
| $11,123,439$ | $14,784,800$ | $15,157,663$ |
| $9,938,865$ | $14,843,700$ | $15,257,738$ |
| $5,747,900$ | $14,668,000$ | $17,029,493$ |
| $10,671,366$ | $15,736,320$ | $15,989,678$ |
| $10,107,019$ | $16,172,160$ | $16,574,721$ |
| $8,223,582$ | $17,278,850$ | $17,734,532$ |
| $8,815,137$ | $16,346,450$ | $16,954,372$ |
| $7,258,077$ | $17,976,768$ | $18,311,622$ |
| $8,336,165$ | $19,242,432$ | $19,623,717$ |

[^6]
## GASB DISCLOSURE

History of Financial Information

| Year <br> End | Employee <br> Contributions |  |
| :---: | :---: | :---: |
| 1978 | $\$ 9,077,825$ | Employer <br> Contributions $^{2}$ |
| 1979 | $9,571,764$ | $11,108,2977,125$ |
| 1980 | $9,729,912$ | $11,791,330$ |
| 1981 | $10,522,389$ | $12,392,694$ |
| 1982 | $11,546,286$ | $12,589,417$ |
| 1983 | $11,608,537$ | $13,681,225$ |
| 1984 | $11,531,243$ | $14,996,619$ |
| 1985 | $11,569,775$ | $15,035,039$ |
| 1986 | $11,691,095$ | $14,765,250$ |
| 1987 | $11,774,209$ | $14,745,709$ |
| 1988 | $11,740,621$ | $15,157,663$ |
| 1989 | $12,529,606$ | $15,257,738$ |
| 1990 | $12,805,485$ | $17,029,493$ |
| 1991 | $13,691,711$ | $15,989,678$ |
| 1992 | $13,025,003$ | $16,574,721$ |
| 1993 | $15,345,146$ | $17,734,532$ |
| 1994 | $14,293,250$ | $\vdots 16,954,372$ |
| 1995 | $14,610,842$ | $18,311,622$ |
| 1996 | $14,856,703$ | $19,623,717$ |


| Investment <br> Income |  |
| ---: | ---: |
| $\$ 10,112,216$ | Total <br> Income |
| $13,547,589$ | $\$ 28,667,166$ |
| $12,626,861$ | $34,227,651$ |
| $9,631,793$ | $34,148,103$ |
| $19,729,269$ | $42,546,876$ |
| $31,809,924$ | $57,864,972$ |
| $28,832,621$ | $55,360,483$ |
| $58,720,209$ | $85,325,023$ |
| $67,653,382$ | $94,109,727$ |
| $58,220,924$ | $84,740,842$ |
| $42,386,313$ | $69,284,597$ |
| $66,965,633$ | $94,752,977$ |
| $49,265,200$ | $79,100,178$ |
| $71,677,465$ | $101,358,854$ |
| $66,508,987$ | $96,108,711$ |
| $92,440,444$ | $125,520,122$ |
| $56,083,250$ | $87,330,872$ |
| $96,491,994$ | $129,414,458$ |
| $117,752,240$ | $152,232,660$ |

Year

| 1978 | $\$ 9,764,039$ |
| :--- | ---: |
| 1979 | $10,795,166$ |
| 1980 | $12,161,292$ |
| 1981 | $12,880,890$ |
| 1982 | $13,851,434$ |
| 1983 | $14,828,962$ |
| 1984 | $16,582,310$ |
| 1985 | $18,516,249$ |
| 1986 | $20,881,472$ |
| 1987 | $23,465,597$ |
| 1988 | $27,467,689$ |
| 1989 | $28,966,184$ |
| 1990 | $32,029,184$ |
| 1991 | $35,435,437$ |
| 1992 | $38,101,275$ |
| 1993 | $43,341,553$ |
| 1994 | $47,648,416$ |
| 1995 | $48,292,850$ |
| 1996 | $49,129,165$ |

## Administrative

## Benefits

Expense
$\$ 350,648$
438,914
440,591
640,795
626,772
641,349
766,485
Refund
\$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
2,012,475
1,756,290
1,832,628
3,064,232
3,351,263
$\begin{array}{ll}3,414,439 & 3,351,263 \\ 3,911,716 & 2,715,455\end{array}$
$4,307,840 \quad 3,614,702$
$4,166,122 \quad 2,023,674$
4,272,012 3,201,077
4,801,526 2,641,093

| Total |  |
| ---: | ---: |
| $\$ 12,454,451$ | $\$ 16,212,715$ |
| $14,055,673$ | $20,171,978$ |
| $16,796,939$ | $17,351,164$ |
| $16,596,246$ | $15,950,630$ |
| $16,338,842$ | $27,526,130$ |
| $17,406,849$ | $39,692,837$ |
| $20,473,249$ | $34,887,234$ |
| $22,055,822$ | $63,269,201$ |
| $25,774,701$ | $68,335,026$ |
| $27,701,384$ | $57,039,458$ |
| $31,488,725$ | $37,795,872$ |
| $33,771,961$ | $60,981,016$ |
| $38,433,568$ | $40,666,610$ |
| $42,201,139$ | $59,157,715$ |
| $44,728,446$ | $51,380,265$ |
| $51,264,095$ | $74,256,027$ |
| $53,838,212$ | $33,492,660$ |
| $55,765,939$ | $73,648,519$ |
| $56,571,783$ | $95,660,877$ |

Statistical material required by Government Accounting Standards Board.
${ }^{1}$ Includes deductions in lieu for disability.
${ }^{2}$ Net tax levy and miscellaneous income. Includes prior year adjustments for taxes beginning in 1991.
${ }^{3}$ Includes realized net loss on sale and exchange of bonds.
${ }^{4}$ Includes adjustments for payables and receivables after 1990.
${ }^{5}$ Does not include prior year adjustments for taxes for years before 1991.
${ }^{6}$ Does not include adjustments for payables and receivables in 1990.

## GASB DISCLOSURE Analysis of Funding Progress ${ }^{1}$

| Year | Net Assets Available for Benefit (Amortized Cost) | Pension <br> Benefit <br> Obligation | Percentage Funded | Unfunded <br> (Surplus) <br> Pension <br> Benefit <br> Obligation | Annual <br> Covered <br> Payroll | Unfunded <br> (Surplus) as a \% of Covered Payroll |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $1985^{\text {a, b }}$ | \$420,554,173 | \$447,815,793 | 93.91\% | \$27,261,620 | \$125,594,688 | 21.71\% |
| $1986^{\text {a, b }}$ | 489,403,006 | 455,604,084 | 107.42\% | $(33,798,922)$ | 128,601,816 | (26.28)\% |
| $1987{ }^{\text {a, b }}$ | 546,947,052 | 521,981,791 | 104.78\% | $(24,965,261)$ | 135,453,096 | (18.43)\% |
| $1988{ }^{\text {a }}$ | 584,899,234 | 541,629,895 | 107.99\% | $(43,269,339)$ | 132,685,608 | (32.61)\% |
| $1989{ }^{\text {a, b }}$ | 646,313,443 | 568,750,487 | 113.64\% | $(77,562,956)$ | 142,024,296 | (54.61)\% |
| $1990{ }^{\text {a b b }}$ | 687,103,206 | 637,028,116 | 107.86\% | $(50,075,090)$ | 145,612,704 | (34.39) \% |
| $1991{ }^{\text {b }}$ | 746,260,921 | 675,731,003 | 110.44\% | $(70,529,918)$ | 149,054,136 | (47.32)\% |
| 1992 | 797,641,186 | 692,900,657 | 115.12\% | (104,740,529) | 141,618,648 | (73.96)\% |
| $1993{ }^{\text {b }}$ | 871,897,213 | 757,005,456 | 115.18\% | $(114,891,757)$ | 147,076,752 | (78.12)\% |
| 1994 | 905,389,873 | 773,455,745 | 117.06\% | $(131,934,128)$ | 155,213,016 | (85.00)\% |
| 1995 | 979,038,393 | 796,785,161 | 122.87\% | $(182,253,232)$ | 152,996,856 | (119.12)\% |
| 1996 | 1,074,699,269 | 833,873,229 | 128.88\% | $(240,826,040)$ | 162,276,840 | (148.40)\% |

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.

[^7]
## GASB DISCLOSURE

## Prioritized Solvency Test

The prioritized solvency test is another means of checking a system's progress under its funding program, based on the actuarial present value of credited projected benefits. In this test the plan's present assets (cash and investments) are compared with obligations in order of priority: (1) active member contributions on deposit; (2) the present value of future benefits to present retired lives; (3) the present value of credited projected benefits for present active members. In a system that has been following the discipline of level percent of payroll financing the obligation for active member contributions on deposit (present value 1) and the present value of future benefits to present retired lives (present value 2) will be fully covered by present assets (except in rare circumstances). In addition, the present value of credited projected benefits for present active members (present value 3 ) will be partially covered by the remainder of present assets. Generally, if the system has been using level cost financing, the funded portion of present value 3 will increase over time.

The schedule below illustrates the history of the obligations of the system.

Actuarial Present Value of Credited Projected Benefits


[^8]Portion (\%) of Present Value Covered by Assets (2) (3) $100 \% \quad 100 \% \quad 100.0 \%$ $100 \% \quad 100 \% \quad 100.0 \%$ $100 \% \quad 100 \% \quad 100.0 \%$

100
.

## GASB DISCLOSURE

History of Retirees and Beneficiaries Added to \& Removed from Benefit Payroll

Employee Annuitants (Male and Female)

| Yr. | Added to Payroll |  | Removed from Payroll |  | Payroll, End of Year |  | Average <br> Annual <br> Benefits | Increase to Avg. Benefits |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No. | Ann. Ben. | No. | Ann. Benefits | No. | Ann. Benefits |  |  |
| 1980 | 268 | \$1,407,183 | 123 | \$425,259 | 2,379 | \$8,958,700 | \$3,766 |  |
| 1981 | 240 | 1,341,271 | 150 | 376,891 | 2,469 | 9,923,080 | 4,019 | 6.7\% |
| 1982 | 182 | 1,233,344 | 176 | 457,708 | 2,475 | 10,698,716 | 4,323 | 7.6\% |
| 1983 | 174 | 1,308,499 | 230 | 483,759 | 2,419 | 11,523,456 | 4,764 | 10.2\% |
| 1984 | 223 | 2,057,564 | 173 | 484,160 | 2,469 | 13,096,860 | 5,305 | 11.4\% |
| 1985 | 170 | 1,829,800 | 220 | 759,172 | 2,419 | 14,167,488 | 5,857 | 10.4\% |
| 1986 | 248 | 3,008,908 | 180 | 465,898 | 2,487 | 16,710,498 | 6,719 | 14.7\% |
| 1987 | 190 | 3,546,317 | 179 | 463,252 | 2,498 | 19,793,563 | 7,924 | 17.9\% |
| 1988 | 154 | 2,009,373 | 158 | 589,873 | 2,494 | 21,213,063 | 8,506 | 7.3\% |
| 1989 | 133 | 1,660,782 | 151 | 527,914 | 2,476 | 22,345,931 | 9,025 | $6.1 \%$ |
| 1990 | 157 | 3,080,832 | 152 | 531,392 | 2,481 | 24,895,371 | 10,034 | 11.2\% |
| 1991 | 170 | 2,795,428 | 150 | 688,716 | 2,501 | 27,002,083 | 10,797 | 7.6\% |
| 1992 | 188 | 3,197,921 | 155 | ! 867,514 | 2,534 | 29,332,490 | 11,576 | 7.2\% |
| 1993 | 439 | 9,572,020 | 171 | -1,062,719 | 2,802 | 37,841,791 | 13,505 | 16.7\% |
| 1994 | 52 | 1,676,720 | 174 | 1,866,066 | 2,680 | 37,652,445 | 14,049 | 4.0\% |
| 1995 | 106 | 3,056,851 | 186 | 2,264,327 | 2,600 | 38,471,969 | 14,797 | 5.3\% |
| 1996 | 91 | 2,762,022 | 154 | 1,972,620 | 2,537 | 39,261,371 | 15,476 | 4.6\% |

Widow/Widower Annuitants (Not Including Compensation)
Added to Payroll Removed from Payroll Payroll, End of Year

| Yr. | No. | Ann. <br> Benefits | No. | Ann. Benefits | No. | Ann. Benefits | Average <br> Annual <br> Benefits | Incr.to <br> Average <br> Benefits |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 1980 | 95 | $\$ 216,304$ | 46 | $\$ 50,598$ | 1,160 | $\$ 1,689,076$ | $\$ 1,456$ |  |
| 1981 | 88 | 178,375 | 84 | 98,583 | 1,164 | $1,768,868$ | 1,520 | $4.4 \%$ |
| 1982 | 94 | 236,034 | 72 | 77,159 | 1,186 | $1,927,743$ | 1,625 | $7.0 \%$ |
| 1983 | 104 | 288,113 | 79 | 87,119 | 1,211 | $2,128,737$ | 1,758 | $8.1 \%$ |
| 1984 | 81 | 250,957 | 64 | 74,700 | 1,228 | $2,304,994$ | 1,877 | $6.8 \%$ |
| 1985 | 95 | 307,723 | 113 | 150,198 | 1,210 | $2,462,519$ | 2,035 | $8.4 \%$ |
| 1986 | 83 | 240,415 | 67 | 92,512 | 1,226 | $2,610,422$ | 2,129 | $4.6 \%$ |
| 1987 | 90 | $1,140,315$ | 76 | 104,939 | 1,240 | $3,645,798$ | 2,940 | $38.1 \%$ |
| 1988 | 84 | 323,567 | 59 | 148,700 | 1,265 | $3,820,665$ | 3,020 | $2.7 \%$ |
| 1989 | 88 | 367,359 | 58 | 148,734 | 1,295 | $4,039,290$ | 3,119 | $3.3 \%$ |
| 1990 | 87 | $1,419,786$ | 65 | 166,685 | 1,317 | $5,292,391$ | 4,019 | $28.8 \%$ |
| 1991 | 89 | 472,698 | 71 | 262,135 | 1,335 | $5,502,954$ | 4,122 | $2.6 \%$ |
| 1992 | 87 | 490,172 | 63 | 249,698 | 1,359 | $5,743,428$ | 4,226 | $2.5 \%$ |
| 1993 | 95 | 548,635 | 56 | 214,308 | 1,398 | $6,077,755$ | 4,347 | $2.9 \%$ |
| 1994 | 71 | 446,490 | 66 | 259,554 | 1,403 | $6,264,691$ | 4,465 | $2.7 \%$ |
| 1995 | 88 | 586,632 | 64 | 264,921 | 1,427 | $6,586,402$ | 4,616 | $3.4 \%$ |
| 1996 | 77 | 549,825 | 87 | 358,563 | 1,417 | $6,777,664$ | 4,783 | $3.6 \%$ |

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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, $47,52,57,62$ and 67 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.

## 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\% 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 low 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 adjusted.

Rates 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 have been adjusted to reflect anticipated earlier retirements for employees under age 60 with at least 30 years of service.

## SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

Rates 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, 1993 until December 31, 1997 is $\$ 75.00$ per month for each annuitant (employees and widows) not qualified to receive Medicare benefits (and $\$ 45.00$ if qualified). 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. All active employees upon their retirement and their widows upon employee's death are assumed to receive the health care supplement.

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.

SERVICE TABLE FUNCTIONS

## Rates of Retirement

## Male

|  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Attained <br> Age | $\mathbf{2 2}$ | $\mathbf{2 7}$ | $\mathbf{3 2}$ | $\mathbf{3 7}$ | $\mathbf{4 2}$ | $\mathbf{4 7}$ | $\mathbf{5 2}$ | $\mathbf{5 7}$ | $\mathbf{6 2}$ | $\mathbf{6 7}$ |
|  |  |  |  |  |  |  |  |  |  |  |
| 55 | 0.30 | 0.03 | 0.01 |  |  |  |  |  |  |  |
| 56 | 0.30 | 0.04 | 0.01 |  |  |  |  |  |  |  |
| 57 | 0.30 | 0.30 | 0.02 | 0.07 | 0.01 |  |  |  |  |  |
| 58 | 0.30 | 0.20 | 0.02 | 0.02 | 0.01 |  |  |  |  |  |
| 59 | 0.35 | 0.20 | 0.03 | 0.04 | 0.01 |  |  |  |  |  |
| 60 | 0.50 | 0.20 | 0.09 | 0.10 | 0.04 | 0.02 | 0.02 | 0.02 |  |  |
| 61 | 0.50 | 0.22 | 0.09 | 0.12 | 0.04 | 0.02 | 0.02 | 0.05 |  |  |
| 62 | 0.50 | 0.25 | 0.15 | 0.33 | 0.07 | 0.03 | 0.03 | 0.10 |  |  |
| 63 | 0.75 | 0.30 | 0.24 | 0.40 | 0.09 | 0.05 | 0.03 | 0.10 | 0.02 |  |
| 64 | 0.75 | 0.35 | 0.28 | 0.45 | 0.11 | 0.06 | 0.05 | 0.15 | 0.05 |  |
| 65 | 1.00 | 0.50 | 0.40 | 0.65 | 0.08 | 0.08 | 0.30 | 0.20 | 0.10 |  |
| 66 |  | 0.75 | 0.45 | 0.65 | 0.42 | 0.13 | 0.15 | 0.20 | 0.15 |  |
| 67 |  | 1.00 | 0.50 | 0.70 | 0.46 | 0.22 | 0.20 | 0.50 | 0.20 |  |
| 68 |  |  | 0.75 | 0.75 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |  |
| 69 |  |  | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 |  |
| 70 |  |  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

## Female

| 55 | 0.25 | 0.05 | 0.04 |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 56 | 0.25 | 0.07 | 0.04 |  |  |  |  |  |
| 57 | 0.35 | 0.30 | 0.05 | 0.01 | 0.01 | 0.01 |  |  |
| 58 | 0.10 | 0.20 | 0.06 | 0.02 | 0.01 | 0.01 |  |  |
| 59 | 0.25 | 0.20 | 0.08 | 0.03 | 0.01 | 0.01 |  |  |
| 60 | 0.40 | 0.28 | 0.12 | 0.10 | 0.02 | 0.02 | 0.02 | 0.02 |
| 61 | 0.50 | 0.30 | 0.15 | 0.13 | 0.04 | 0.02 | 0.03 | 0.03 |
| 62 | 0.50 | 0.33 | 0.30 | 0.14 | 0.08 | 0.03 | 0.03 | 0.03 |
| 63 | 0.75 | 0.50 | 0.33 | 0.15 | 0.09 | 0.03 | 0.04 | 0.03 |
| 64 | 0.75 | 0.50 | 0.22 | 0.15 | 0.10 | 0.03 | 0.05 | 0.04 |
| 65 | 1.00 | 0.75 | 0.24 | 0.42 | 0.25 | 0.13 | 0.05 | 0.06 |
| 66 |  | 0.75 | 0.27 | 0.20 | 0.27 | 0.15 | 0.06 | 0.08 |
| 67 |  | 1.00 | 0.30 | 0.30 | 0.33 | 0.25 | 0.07 | 0.12 |
| 68 |  |  | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| 69 |  |  | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 |
| 70 |  |  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |


| 0.02 |  |
| :--- | :--- |
| 0.04 |  |
| 0.15 |  |
| 0.18 |  |
| 0.22 |  |
| 0.50 |  |
| 0.75 |  |
| 1.00 | 1.00 |

Expected Average Age of Retirement
$\begin{array}{ll}\text { Present Membership } & 60.57 \\ \text { New Hires } & 62.15\end{array}$

## SERVICE TABLE FUNCTIONS

## Rates of Termination

## Male

| Attained <br> Age | $\mathbf{2 2}$ | $\mathbf{2 7}$ | $\mathbf{3 2}$ | $\mathbf{3 7}$ | $\mathbf{4 2}$ | $\mathbf{4 7}$ | $\mathbf{5 2}$ | $\mathbf{5 7}$ | $\mathbf{6 2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |
| 22 | 0.223 |  |  |  |  |  |  |  |  |
| 27 | 0.116 | 0.262 |  |  |  |  |  |  |  |
| 32 | 0.050 | 0.100 | 0.219 |  |  |  |  |  |  |
| 37 | 0.021 | 0.046 | 0.098 | 0.221 |  |  |  |  |  |
| 42 | 0.012 | 0.025 | 0.022 | 0.088 | 0.176 |  |  |  |  |
| 47 | 0.005 | 0.012 | 0.010 | 0.034 | 0.080 | 0.142 |  |  |  |
| 52 |  | 0.005 | 0.005 | 0.017 | 0.028 | 0.076 | 0.120 |  |  |
| 57 |  |  |  |  |  |  | 0.046 | 0.112 |  |
| 62 |  |  |  |  |  |  |  |  | 0.148 |
| 67 |  |  |  |  |  |  |  |  |  |

Female

| 22 | 0.140 |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 27 | 0.108 | 0.174 |  |  |  |  |  |
| 32 | 0.052 | 0.085 | 0.108 |  |  |  |  |
| 37 | 0.022 | 0.038 | 0.062 | 0.074 |  |  |  |
| 42 | 0.008 | 0.022 | 0.033 | 0.051 | 0.054 |  |  |
| 47 |  | 0.013 | 0.017 | 0.028 | 0.033 | 0.063 |  |
| 52 |  | 0.005 | 0.009 | 0.015 | 0.020 | 0.033 | 0.054 |
| 57 |  |  |  |  |  |  | 0.036 |

0.027

62
0.036

67

| Attained <br> Age | Male Death Rate <br> UP-1984 <br> Per Thousand | Female Death Rate <br> UP-1984 <br> Per Thousand | Proportion <br> Married <br> 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 |

## 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 <br> $!$ | 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 | $.95^{1}$ | 1.08 |
| 1983 | $.98^{2}$ | $1.49^{2}$ | $1.66^{2}$ | .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 | $.75^{1}$ | .68 |
| 1989 | 1.31 | 1.21 | 1.29 | .64 | .67 |
| 1990 | 1.47 | 1.23 | 1.48 | .73 | .49 |
| 1991 | .92 | 1.31 | 1.52 | $.87^{1}$ | .64 |
| 1992 | 1.27 | 1.19 | 1.23 | 1.17 | .79 |
| 1993 | 1.22 | 1.27 | 1.06 | $2.61^{3}$ | .70 |
| 1994 | 1.36 | 1.23 | 1.13 | .51 | .44 |
| 1995 | 1.31 | 1.33 | 1.06 | 1.08 | .68 |
| 1996 | 1.06 | 1.10 | 1.41 | .87 | .77 |

[^9]ACTUARIAL EXPERIENCE
Attained Age at Retirement, 1996

| Age | 22 | 27 | Age at Entrance - Male |  |  |  |  |  | 62 | 67 | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 32 | 37 | 42 | 47 | 52 | 57 |  |  |  |
| 55 | 12 | 2 | 1 |  | 1 |  |  |  |  |  | 16 |
| 56 | 3 | 4 | 2 |  |  |  |  |  |  |  | 9 |
| 57 | 1 | 2 |  |  |  |  |  |  |  |  | 3 |
| 58 | 3 | 1 | 1 | 2 |  |  |  |  |  |  | 7 |
| 59 | 1 |  |  |  |  |  |  |  |  |  | 1 |
| 60 |  | 1 |  |  |  |  |  |  |  |  | 1 |
| 61 |  | 3 | 2 | 1 |  | 1 |  |  |  |  | 7 |
| 62 | 2 | 1 | 2 | 2 |  |  |  | 1 |  |  | 8 |
| 63 |  | 1 |  |  | 1 | 1 | 1 |  |  |  | 4 |
| 64 |  |  | 1 | 1 | 4 | 1 |  |  |  |  | 7 |
| 65 | 1 |  | 1 |  |  | 2 |  |  |  |  | 4 |
| 66 |  |  |  |  | 1 |  | 2 |  |  |  | 3 |
| 67 |  |  |  |  | 1 | 1 | 1 |  |  |  | 3 |
| 68 |  |  |  | 1 | 1 |  |  |  |  |  | 2 |
| 69 |  |  |  |  |  | 1 |  | 1 |  |  | 2 |
| 70 |  |  |  |  |  |  |  |  |  |  | 0 |
| Total | 23 | 15 | 10 | 7 | 9 | 7 | 4 | 2 | 0 | 0 | 77 |

3 male employees retired before age 55 or after age 70 in 1996.

|  |  |  | Age at Entrance - Female |  |  |  |  |  | 62 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Age | 22 | 27 | 32 | 37 | 42 | 47 | 52 | 57 |  |  | Total |
| 55 | 1 |  |  |  |  |  |  |  |  |  | 1 |
| 56 |  |  |  |  |  |  |  |  |  |  | 0 |
| 57 |  | 1 |  |  |  |  |  |  |  |  | 1 |
| 58 |  | 1 |  |  |  |  |  |  |  |  | 1 |
| 59 | 1 |  |  |  |  |  |  |  |  |  | 1 |
| 60 |  |  |  |  |  |  |  |  |  |  | 0 |
| 61 |  |  |  |  |  |  |  |  |  |  | 0 |
| 62 |  |  |  |  |  |  |  |  |  |  | 0 |
| 63 |  |  |  |  |  |  |  |  |  |  | 0 |
| 64 |  |  |  |  |  |  |  |  |  |  | 0 |
| 65 |  |  | 1 |  |  |  |  |  |  |  | 1 |
| 66 |  |  |  | 2 |  |  |  | 1 |  |  | 3 |
| 67 |  |  |  | 1 |  |  |  |  |  |  | 1 |
| 68 |  |  |  |  |  |  |  |  |  |  | 0 |
| 69 |  |  |  |  |  |  |  |  |  |  | 0 |
| 70 |  |  |  |  |  |  |  |  |  |  | 0 |
| Total | 2 | 2 | 1 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 9 |

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

## IMPACT STATEMENT

| Fund | Laborers' |
| :--- | ---: |
| Annual Payroll | $\$ 162,276,840$ |
| Active Members | 3,785 |
| Valuation Date | $12-31-96$ |
|  | Present Plan |
| (1) Accrued Pension Liability | $\$ 936,623,719$ |
| (2) Present Assets | $1,074,699,269$ |
| (3) Unfunded Liability $=(1)-(2)$ | $(138,075,550)$ |
| (4) Funded Ratio $=(2) /(1)$ | $114.74 \%$ |

## Direction of Financial Condition

(5) Minimum Recommended Annual Contribution
\$21,544,208

$$
\begin{array}{cc}
\text { Per } & \text { Percent } \\
\text { Active } & \text { of Salary }
\end{array}
$$

(6) Estimated Annual Employer Contribution
(7) Estimated Annual Employee Contribution

18,863,712
\$5,692
$13.28 \%$

13,793,531
4,984
$11.62 \%$
(8) Deficiency (Excess) in Annual Contributions $=(5)-(6)-(7)$
$(2,936)$
(6.85) \%

## PLAN SUMMARY

## Participant

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 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 complete 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 is 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 credit expiration.

Minimum Annuity Formula: Maximum is $75 \%$ of final average salary.
a. An employee age 55 or older withdrawing on or after July 1, 1990, with at least 20 years of service, is qualified for an annuity equal to $2.2 \%$ for each year of service 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 unless he has at least 30 years of service. Employee could also choose the old factors $(1.8 \%, 2.0 \%, 2.2 \%, 2.4 \%$ ) for each 10 years of service credit if it is to his benefit.
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

c. The employee will receive a minimum annuity of $\$ 350$ per month if the employee retires at age 60 or more with at least 10 years of service on or after January 1, 1991.

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 this 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 granted 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 between the ages of the employee and 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 combined service credits in two or more governmental units in Illinois to whose pension funds he or she has contributed.

Automatic Increasein Annuity: An employee who is age 60 or more is entitled to receive $3 \%$ of the original annuity, such increase to begin in January of the year immediately following the year of the first anniversary of retirement. 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.

## PLAN SUMMARY

Spouses' Minimum Annuity Formula: If the employee retires or dies in service before July 1, 1990 and is at least age 60 with 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 $\$ 500$ if employee's death occurred before January 23, 1987. The spouse's annuity must then be discounted $.25 \%$ for each month that the spouse is under age 60 at the time the annuity is fixed. For deaths on or after January 23, 1987 there is no maximum dollar amount of spouse annuity.

If the employee retires or dies in service after July 1,1990 and is at least age 55 with 20 or more years of service, the spouse's annuity is equal to half the amount of annuity the employee was entitled to at time of retirement or death in service. This annuity must then be discounted $.25 \%$ for each month the spouse is under age 55 at the time the employee retires or dies in service.

In the case of the spouse of a female employee, the 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 full service before October 1974.

The spouse will receive a minimum annuity of $\$ 300$ 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, 1991.

## 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 or in esse before his separation from service or legally adopted at least one year before child's annuity becomes payable. 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 the 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.

## PLAN SUMMARY

## 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. However, the employee will receive service credit and the City will contribute salary deductions for annuity purposes if the employee is receiving Workers' Compensation.

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 age 70 limitation was removed beginning January 1, 1987. As of January 1,1991 , a duty disability benefit which continues for more than 5 years and which starts before the employee's age 60 , will be increased by $10 \%$ on January 1st of the sixth year.

The City contributes salary deductions for annuity purposes for the duty disability benefit. 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: This benefit is granted for disability other than in performance of an act of duty and is $50 \%$ of salary as of last day worked less the sum ordinarily deducted from salary for annuity purposes. The first payment shall be made one month after the disablement occurs. Disability is 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. The age 70 limitation was removed beginning January 1, 1987.

## Group Health Hospital and Surgical Insurance Premiums

The pension fund may provide up to a maximum of $\$ 75$ per month for non-Medicare eligible annuitants (employees or widows, without regard to age or years of service) and up to $\$ 45$ per month for Medicare eligible annuitants until December 31, 1997.

## PLAN SUMMARY

## 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 January 14, 1991, employee may choose a refund in lieu of annuity if the calculated annuity would be less than $\$ 300$ 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 January 14, 1991, spouse may choose a refund in lieu of annuity if the calculated annuity would be less than $\$ 300$ 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 ${ }^{1}$

| Employee | $6.5 \%$ | $6.0 \%$ |
| :--- | :--- | :--- |
| Spouse | 1.5 | 2.0 |
| Annuity Increase | $\underline{0.5}$ | 0.0 |
|  |  |  |
| Total | $8.5 \%$ | $8.0 \%$ |

## ${ }^{1}$ 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.

## PLAN SUMMARY

## 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 $\mathrm{W}-2$ 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.



## ASSETS AND LIABILITIES



DPCLABT

## FUNDED RATIOS



$$
\text { ACCRUED } \uparrow \text { PBO } \neq \text { VESTED TERMINATION }
$$

LFRATBK

## UNFUNDED LIABILITY



GRAPH C


## INCOME AND PAYOUTS



## ACTUARIAL ASSETS <br> 1996



ACTUARIAL PRESENT VALUE OF BENEFITS 1996

ACTUARIAL COST METHOD 1996

## ANNUAL ACTUARIAL COST <br> (Normal Cost plus Interest Only)




GRAPH F

## EMPLOYEES BY AGE AND SERVICE 1996

| SERVICE |
| :---: |
| $\square 35+$ |
| ®30-34 |
| 円.25-29 |
| $\square 20-24$ |
| T15-19 |
| ®10-14 |
| - 5-9 |
| $\square \square_{1-4}$ |
| 里 |



HIGHEST AGE OF GROUP

## EMPLOYEES BY AGE AND SERVICE 1996



## ANNUITANTS BY AGE 1996



- RET FEM CNT
- SPOUSE CNT
$\rightarrow$ RET MALE CNT


## ANNUITANTS BY AGE 1996



## ACTUARIAL COST



DPCPPPTL
LAB
LAB

## ACTUARIAL DEFICIENCY (EXCESS)



$$
\text { NC+INT } \text { NC+40 YRS * NC+SS }
$$

## I <br> CHANGE IN THE UNFUNDED LIABILITY



$$
\square_{\text {SALARY }} \boxtimes \mathrm{INVEST} \square \mathrm{CONTRIB} \boxtimes \text { AMEND } \square \mathrm{ASSUMPTIONS} \text { } \boxtimes \text { MISC } \text { TOTAL }
$$

## YIELD ON TOTAL ASSETS (BOOK)


$-\mathrm{INCL} \mathrm{G} / \mathrm{L}$ 米 $\mathrm{INCL} ; \mathrm{Y}=.2813 \mathrm{X}+4.4453 \quad \mathrm{EXCL} \mathrm{G} / \mathrm{L}+\mathrm{EXCL} ; \mathrm{Y}=-.050 \mathrm{X}+7.4325 \square \mathrm{ACT}$ ASSUMPTION

## MARKET YIELD <br> INVESTED ASSETS NET OF INVESTMENT EXPENSE



BOOK VS. MARKET
Investment income net of expense

MIL̇LIONS \$



GRAPH P

## LABORERS'




[^0]:    ${ }^{1}$ Seasonal fluctuations show about 300-400 more City employees than at year-end valuation figures.

[^1]:    ${ }^{1} 1996$ active participants does not include $300-400$ seasonal employees.
    ${ }^{2}$ Change due for 1997.

[^2]:    ${ }^{1}$ Includes "Pickup."

[^3]:    ' Includes "Pickup."

[^4]:    ${ }^{1}$ Includes those members who were on disability.
    ${ }^{2}$ Total salaries include the $7 \%$ Board of Education "pick up" for the first time due to a change in the law.
    ${ }^{3}$ Average annual increase in salary 1966-1996, about $6.8 \%$ compounded. The average increase in the Chicago CPI for the same period is about $5.4 \%$.

[^5]:    ${ }^{\text {a }}$ Change in valuation assumptions
    ${ }^{\text {b }}$ Change in benetits
    Quick ratio is defined as assets divided by the termination liability.

[^6]:    ${ }^{1}$ Tax levy atter $4 \%$ overall loss.
    ${ }^{2}$ Net tax levy. Includes prior year adjustments for taxes beginning in 1991.

[^7]:    ${ }^{1}$ 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.
    ${ }^{2}$ Change in actuarial assumptions.
    ${ }^{\mathrm{b}}$ Change in benefits.

[^8]:    ${ }^{\text {a }}$ Change in actuarial assumptions.
    ${ }^{\text {b }}$ Change in benefits.

[^9]:    ${ }^{1}$ New retirement rates.
    ${ }^{2}$ New mortality rates.
    ${ }^{3}$ Early Retirement Incentive.

