



OHIO PUBLIC EMPLOYEES RETIREMENT SYSTEM

ANNUAL ACTUARIAL VALUATION OF
RETIREMENT ALLOWANCES

DECEMBER 31, 1999

GABRIEL, ROEDER, SMITH & COMPANY

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GABRIEL, ROEDER, SMITH & COMPANY

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August 8, 2000

The Retirement Board
Public Employees Retirement System of Ohio
Columbus, Ohio

Ladies and Gentlemen:

The results of the *December 31, 1999 annual actuarial valuation* of the Public Employees Retirement System of Ohio, based upon Chapter 145 of the Code as amended are presented in this report. (The gain/loss analysis of experience and projections of retiree health and Medicare are covered in separate reports.) The purpose of the valuation is to measure the system's funding progress and to determine employer contribution rates for the coming year in accordance with established funding policy.

The individual member statistical data required for the valuations was furnished by your Executive Director and Staff, together with pertinent data on financial operations. Their cooperation in furnishing these materials is acknowledged with appreciation.

The actuarial assumptions used in the valuations are summarized in Section VIII of this report. The assumptions are established by the Retirement Board after consulting with the actuary.

The valuation was completed in accordance with standards of practice prescribed by the Actuarial Standards Board and in conformance with Chapter 145 of the Revised Code of Ohio. To the best of our knowledge this report is complete and accurate and the actuarial methods and assumptions produced results which are reasonable.

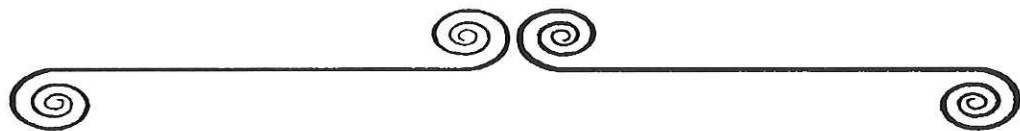
Respectfully submitted,

GABRIEL, ROEDER, SMITH & COMPANY

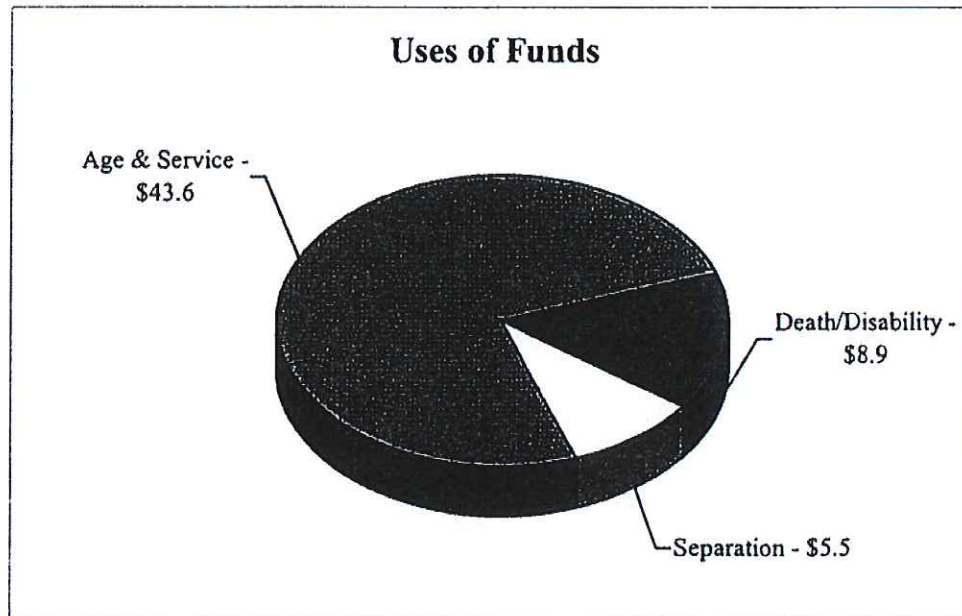
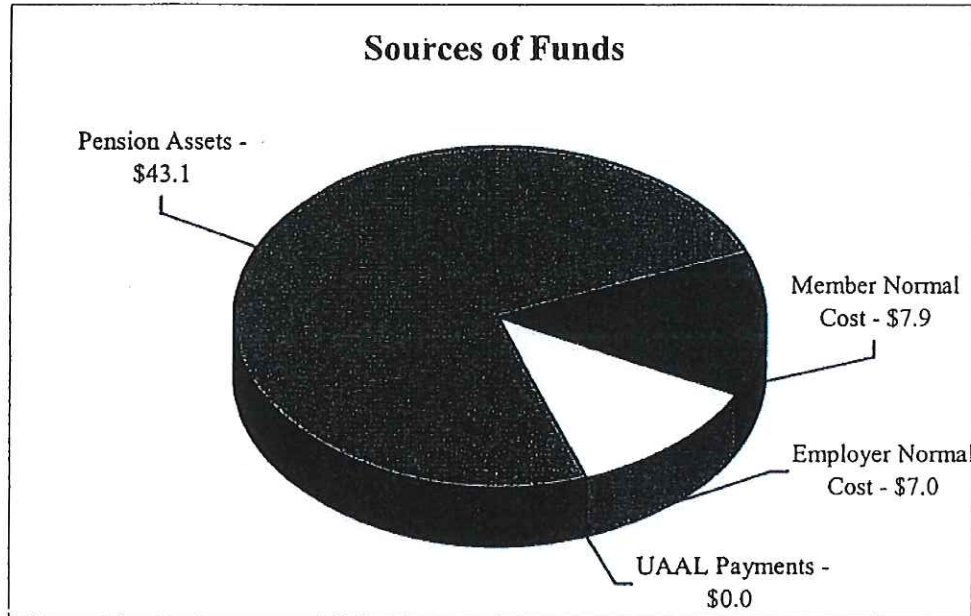
 
Norman L. Jones, F.S.A. Brian B. Murphy, F.S.A.

BBM/alv

Retirement System Totals



**FINANCING \$58.0 BILLION* OF PENSION BENEFIT PROMISES
FOR PRESENT ACTIVE AND RETIRED MEMBERS
DECEMBER 31, 1999
(DOLLAR AMOUNTS IN BILLIONS)**



* Present value of future benefits – all divisions combined.

COMMENTS REGARDING THE FINANCING OF RETIREMENT ALLOWANCES

The December 31, 1999 actuarial valuations of members indicate the following about the portion of employer contribution rates allocated to financing retirement allowances:

- The employer rates are sufficient to fully fund the cost of benefit commitments being made to members for service currently being rendered.
- After satisfying current cost requirements, the remaining portion of the employer rates provides either (i) sufficient funds to amortize unfunded actuarial accrued liabilities over a period not to exceed 30 years, or (ii) a margin for future unfavorable experience.

Key valuation results are summarized below.

| Division | Active Members | | Retirement Allowance Portion of Employer Rate | Amortization Years for Unfunded Pension Accrued Liabilities | |
|-------------------------|----------------|-----------------------------------|---|---|------------|
| | Number | Annual Payroll (\$Millions) | | This Year | Prior year |
| State | 112,761 | \$ 3,592 | 9.01% | * | * |
| Local Government | 240,005 | 5,586 | 9.25% | 2 | * |
| Law Enforcement Group A | 889 | 37 | 12.40% | 18 | 5 |
| Law Enforcement Group B | 6,877 | 262 | 12.40% | 21 | 5 |
| Totals | 360,532 | \$ 9,477 | | | |

* Accrued liabilities are fully funded.

Retirants and beneficiaries included in the valuation totaled 129,656 as follows:

| Division | Number | \$ Millions | | | Ratio of Assets to Liabilities |
|--------------|----------------|-------------------------------|--------------------------|-----------------|--------------------------------------|
| | | Monthly Benefits Valued | Actuarial Liabilities | Assets# | |
| A & PR | 115,431 | \$127.52 | \$16,139 | \$16,139 | 100.0 % |
| SBF | 14,225 | 7.89 | 911 | 911 | 100.0 % |
| Total | 129,656 | \$135.41 | \$17,050 | \$17,050 | 100.0 % |

After recommended reserve transfers.

COMMENTS

Benefit Changes. The valuation includes the effect of changes enacted by the legislature in May 2000, as follows:

- HB 628 included increases in benefit multipliers and survivor benefits. In addition, ad hoc increases were granted to current retirants and beneficiaries. Changes are effective September 21, 2000.
- SB 144 provides for interest on refunds of accumulated contributions for members terminating with any years of service and a partial employer match for members terminating with 5 or more years of service. Interest and employer match provisions are effective December 13, 2000.
- HB 416 provides for earlier retirement for sheriffs, deputy sheriffs and township police. The change in eligibility is effective January 1, 2001.

The legislation required a splitting of the prior single Law Enforcement Division into two new rate groups, as follows:

- Benefit Group A: Law Enforcement members other than sheriffs, deputy sheriffs and township police are covered under the provisions of HB 628 and SB 144, but not by the provisions of HB 416.
 - Benefit Group B: Law Enforcement members including sheriffs, deputy sheriffs and township police are covered under the provisions of HB 628 and HB 416, but not by the provisions of SB 144 unless they do not benefit from the provisions of HB 416.
-

Contribution Rate Allocation: The valuation also reflects the re-allocation of total employer contribution rates between base retirement and retiree health benefits as follows:

| Contributions for | State | | Local Government | | Law Enforcement | |
|---------------------------|--------|---------|------------------|---------|-----------------|---------|
| | Prior | Current | Prior | Current | Prior | Current |
| Base retirement | 9.11% | 9.01% | 9.35% | 9.25% | 12.50% | 12.40% |
| Retiree health & Medicare | 4.20% | 4.30% | 4.20% | 4.30% | 4.20% | 4.30% |
| Total | 13.31% | 13.31% | 13.55% | 13.55% | 16.70% | 16.70% |

Experience. Experience was favorable this year. Investment return recognized for the valuation was above the assumed level and salary increases were at or below the assumed level. Additional information concerning 1999 experience will be presented in a separate report of gain/loss experience.

Conclusion. Based on the results of the December 31, 1999 regular annual actuarial valuation, it is our opinion that the Public Employees Retirement System of Ohio continues to be in sound financial condition in accordance with actuarial principles of level percent of payroll financing.

ACTIVE MEMBERS IN VALUATION GROUP AVERAGES - COMPARATIVE STATEMENT

| Valuation Group | Dec. 31 | No. of Active Members | Group Averages | | | | |
|----------------------------|---------|-----------------------------|-----------------|-------------------------|----------------|----------|---|
| | | | Attained Age | Accrued Service Yrs. | Annual Payroll | | |
| | | | | | Average | Increase | |
| STATE | 1975 | 83,220 | 40.6 yrs. | 6.5 yrs. | \$ 9,441 | 6.4 % | @ |
| | 1980 | 92,872 | 39.4 | 7.3 | 13,934 | 8.1 % | @ |
| | 1985 | 89,256 | 39.2 | 8.4 | 18,677 | 7.4 % | @ |
| | 1990 | 98,939 | 40.7 | 8.1 | 25,281 | 6.2 % | @ |
| | 1995 | 114,596 | 40.4 | 8.8 | 27,962 | 2.0 % | @ |
| | 1996 | 115,712 | 40.3 | 8.9 | 28,684 | 2.6 % | |
| | 1997 | 114,036 | 40.5 | 9.1 | 29,858 | 4.1 % | |
| | 1998 | 112,323 | 41.0 | 9.4 | 31,159 | 4.4 % | |
| | 1999 | 112,761 | 41.2 | 9.6 | 31,851 | 2.2 % | |
| LOCAL GOV'T | 1975 | 149,557 | 40.8 yrs. | 6.1 yrs. | \$ 8,771 | 4.3 % | @ |
| | 1980 | 160,797 | 40.7 | 7.4 | 13,035 | 8.2 % | @ |
| | 1985 | 158,285 | 40.1 | 8.3 | 15,983 | 6.2 % | @ |
| | 1990 | 173,220 | 41.5 | 7.9 | 19,506 | 4.1 % | @ |
| | 1995 | 223,431 | 41.2 | 7.6 | 20,384 | 0.9 % | @ |
| | 1996 | 229,954 | 41.2 | 7.7 | 20,839 | 2.2 % | |
| | 1997 | 231,668 | 41.4 | 7.8 | 21,481 | 3.1 % | |
| | 1998 | 234,601 | 41.6 | 8.0 | 22,334 | 4.0 % | |
| | 1999 | 240,005 | 41.7 | 8.0 | 23,276 | 4.2 % | |
| LAW ENFORCEMENT GROUP A | 1999 | 889 | 39.3 yrs. | 11.4 yrs. | \$ 42,119 | - | |
| LAW ENFORCEMENT GROUP B | 1975 | 2,111 | 35.0 yrs. | 4.9 yrs. | \$ 10,467 | - | |
| | 1980 | 3,019 | 36.1 | 6.8 | 16,846 | 10.0 % | @ |
| | 1985 | 4,207 | 36.5 | 8.4 | 20,103 | 5.5 % | @ |
| | 1990 | 5,804 | 38.6 | 9.9 | 26,936 | 6.0 % | @ |
| | 1995 | 6,605 | 39.3 | 11.1 | 32,441 | 3.2 % | @ |
| | 1996 | 6,742 | 39.3 | 11.3 | 33,987 | 4.8 % | |
| | 1997 | 7,256 | 39.3 | 11.5 | 35,680 | 5.0 % | |
| | 1998 | 7,507 | 39.3 | 11.6 | 36,931 | 3.5 % | |
| | 1999 | 6,877 | 39.3 | 11.4 | 38,039 | 3.0 % | |

@ 5 year annual compound rate.

MARKET VALUE RECONCILIATION OF ASSETS
(ALL DIVISIONS COMBINED)

| | Calendar Year Ended December 31 | |
|----------------------------------|---------------------------------|------------------|
| | 1999 | 1998 |
| Beginning Market Value | \$51,399,531,028 | \$45,283,541,063 |
| Revenues | | |
| Member Contributions | 826,331,533 | 799,281,516 |
| Employer Contributions | 1,327,889,681 | 1,266,445,268 |
| Retiree Health Premiums | 19,189,167 | 18,401,595 |
| Total Revenues | 2,173,410,381 | 2,084,128,379 |
| Expenditures | | |
| Retirement Benefits | 1,505,940,162 | 1,402,239,075 |
| Refunds of Member Contributions | 120,631,483 | 125,609,907 |
| System Paid Retiree Health Care | 479,644,355 | 398,519,742 |
| Member Paid Retiree Health Care | 19,189,167 | 18,401,595 |
| Retiree Medicare Reimbursement | 43,954,994 | 42,076,921 |
| Administrative Expenses | 31,414,286 | 30,227,332 |
| Other | 4,135,535 | 5,794,748 |
| Total Expenditures | 2,204,909,982 | 2,022,869,320 |
| Investment Return | | |
| Ordinary Income | 2,406,504,189 | 1,802,694,053 |
| Realized Capital Value Changes | 3,028,502,222 | 1,530,323,955 |
| Unrealized Capital Value Changes | 1,091,277,450 | 2,721,712,898 |
| Total Investment Return | 6,526,283,861 | 6,054,730,906 |
| Ending Market Value | \$57,894,315,288 | \$51,399,531,028 |

**DEVELOPMENT OF FUNDING VALUE OF ASSETS
(BASED UPON 4 YEAR PHASE-IN OF DIFFERENCES BETWEEN ACTUAL AND ASSUMED RETURN)**

| Year Ended December 31 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
|--|------------------|------------------|------------------|----------------|----------------|----------------|
| A. Funding Value Beginning of Year | \$38,402,909,983 | \$42,562,579,341 | \$48,141,431,295 | | | |
| B. Market Value End of Year | 45,283,541,063 | 51,399,531,028 | 57,894,315,288 | | | |
| C. Market Value Beginning of Year | 39,750,587,206 | 45,283,541,063 | 51,399,531,028 | | | |
| D. Non-Investment/Administrative Net Cash Flow | 170,590,039 | 91,486,391 | (85,315) | | | |
| E. Investment Return | | | | | | |
| E1. Market Total:B-C-D | 5,362,363,818 | 6,024,503,574 | 6,494,869,575 | | | |
| E2. Assumed Rate of Return | 7.75% | 7.75% | 7.75% | | | |
| E3. Assumed Amount of Return | 2,982,835,888 | 3,302,144,997 | 3,730,957,619 | | | |
| E4. Amount Subject to Phase In: E1-E3 | 2,379,527,930 | 2,722,358,577 | 2,763,911,956 | | | |
| F. Phased-In Recognition of Investment Return | | | | | | |
| F1. Current year: 0.25xE4 | 594,881,983 | 680,589,644 | 690,977,989 | | | |
| F2. First Prior Year | 26,566,834 | 594,881,983 | 680,589,644 | \$ 690,977,989 | | |
| F3. Second Prior Year | 883,182,106 | 26,566,834 | 594,881,983 | 680,589,644 | \$ 690,977,989 | |
| F4. Third Prior Year | (498,387,492) | 883,182,105 | 26,566,833 | 594,881,983 | 680,589,644 | \$ 690,977,989 |
| F5. Total Recognized Investment Gain | 1,006,243,431 | 2,185,220,566 | 1,993,016,449 | 1,966,449,616 | 1,371,567,633 | 690,977,989 |
| G. Funding Value End of Year: A+D+E3+F5 | 42,562,579,341 | 48,141,431,295 | 53,865,320,048 | | | |
| H. Difference Between Market and Funding Value | 2,720,961,722 | 3,258,099,733 | 4,028,995,240 | 2,062,545,622 | 690,977,989 | - |
| I. Recognized Rate of Return | 10.36% | 12.88% | 11.89% | | | |

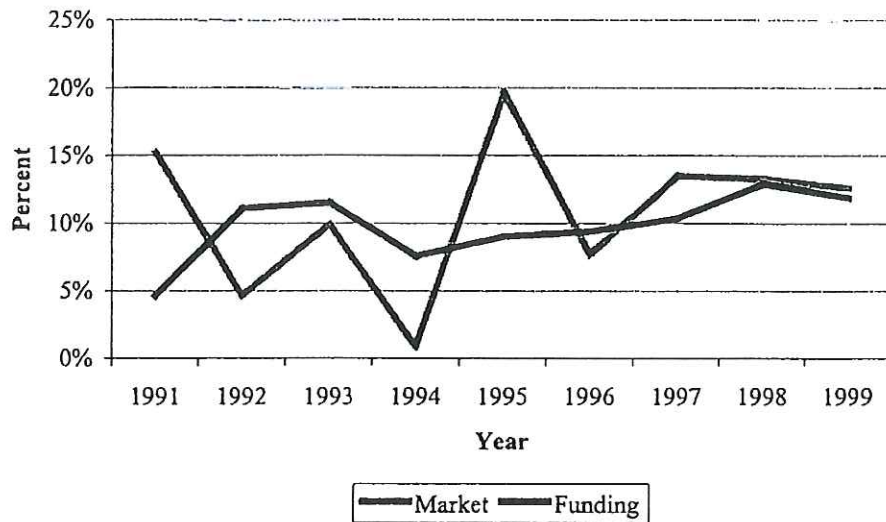
The Funding Value of Assets recognizes assumed investment return (line E3) fully each year. Differences between actual and assumed investment return (line E4) are phased-in over a closed 4 year period. During periods when investment performance exceeds the assumed rate, Funding Value of Assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, Funding Value of Assets will tend to be greater than market value. If assumed rates are exactly realized for 3 consecutive years, funding value will become equal to market value.

**ALLOCATION OF FUNDING VALUE OF ASSETS
AMONG DIVISIONS AND USAGE
DECEMBER 31, 1999**

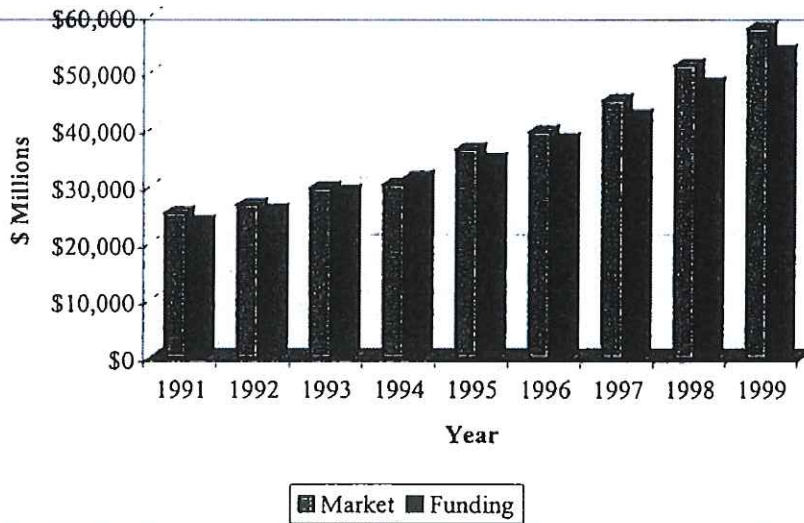
| | State | Local | Law A | Law B | Total |
|-----------------------------------|-------------------|-------------------|----------------|------------------|-------------------|
| Retirement Assets | | | | | |
| Active and Inactive Member Assets | | | | | |
| Employer Accumulation Fund | | | | | |
| Pension | \$ 6,380,713,371 | \$ 8,621,151,314 | \$ 100,472,317 | \$ 528,381,342 | \$ 15,630,718,344 |
| Survivor | 732,955,538 | 985,772,100 | 9,507,517 | 59,890,415 | 1,788,125,570 |
| Employee Savings Fund | 2,738,920,054 | 3,967,099,054 | 33,217,785 | 205,552,268 | 6,944,789,161 |
| Market Value Adjustment -Pension | 1,252,436,658 | 1,701,004,087 | 10,988,899 | 94,481,355 | 3,058,910,999 |
| Market Value Adjustment-Survivor | 83,896,719 | 120,438,961 | 781,487 | 6,519,271 | 211,636,438 |
| Total Active and Inactive Assets | 11,188,922,340 | 15,395,465,516 | 154,968,005 | 894,824,651 | 27,634,180,512 |
| Retired Assets | | | | | |
| Annuity and Pension Reserve | | | | | |
| Service Retirement | 5,276,609,905 | 6,882,992,929 | 0 | 233,876,455 | 12,393,479,289 |
| Disability Retirement | 840,806,390 | 1,223,043,871 | 0 | 181,642,964 | 2,245,493,225 |
| Total A & PR Fund | 6,117,416,295 | 8,106,036,800 | 0 | 415,519,419 | 14,638,972,514 |
| Survivor Benefit Fund | | | | | |
| S-1 | 100,216,491 | 141,739,829 | 0 | 6,363,073 | 248,319,393 |
| S-2 | 187,509,118 | 337,739,370 | 0 | 13,059,473 | 538,307,961 |
| Total Survivor Benefit Fund | 287,725,609 | 479,479,199 | 0 | 19,422,546 | 786,627,354 |
| Total Retired Assets | 6,405,141,904 | 8,585,515,999 | 0 | 434,941,965 | 15,425,599,868 |
| Total Retirement Assets | 17,594,064,244 | 23,980,981,515 | 154,968,005 | 1,329,766,616 | 43,059,780,380 |
| Health Assets | | | | | |
| Employer Accumulation Fund | 3,577,851,262 | 6,112,607,235 | 45,625,956 | 248,735,050 | 9,984,819,503 |
| Market Value Adjustment | 294,087,908 | 502,436,726 | 3,750,307 | 20,445,224 | 820,720,165 |
| Total Health Assets | 3,871,939,170 | 6,615,043,961 | 49,376,263 | 269,180,274 | 10,805,539,668 |
| Total Funding Value of Assets | \$ 21,466,003,414 | \$ 30,596,025,476 | \$ 204,344,268 | \$ 1,598,946,890 | \$ 53,865,320,048 |

The above reserves were reported to the Actuary by PERS. The Actuary calculated the Market Value Adjustment. In 1999, the Actuary also separated the assets between the two Law groups. The separation shown between Law A and Law B for health assets is an approximation that may be revised following completion of the Actuarial Valuation of the Retiree Health Plan later this year.

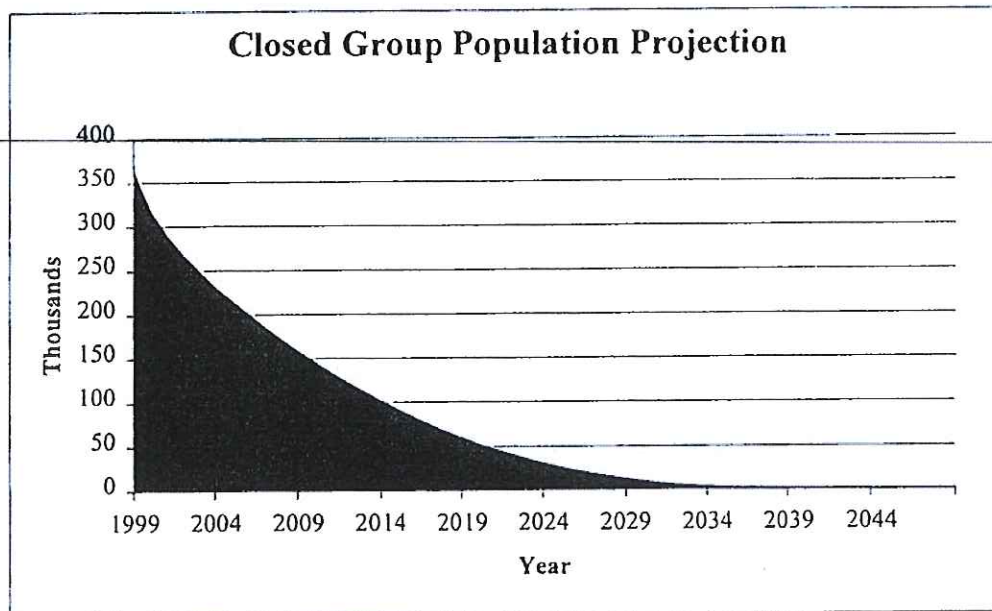
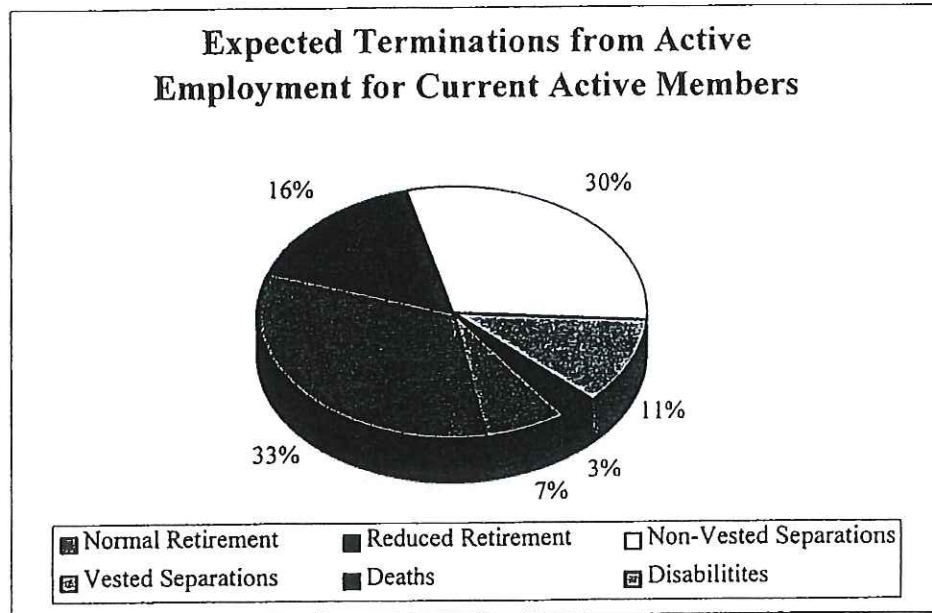
Comparison of Rates of Return



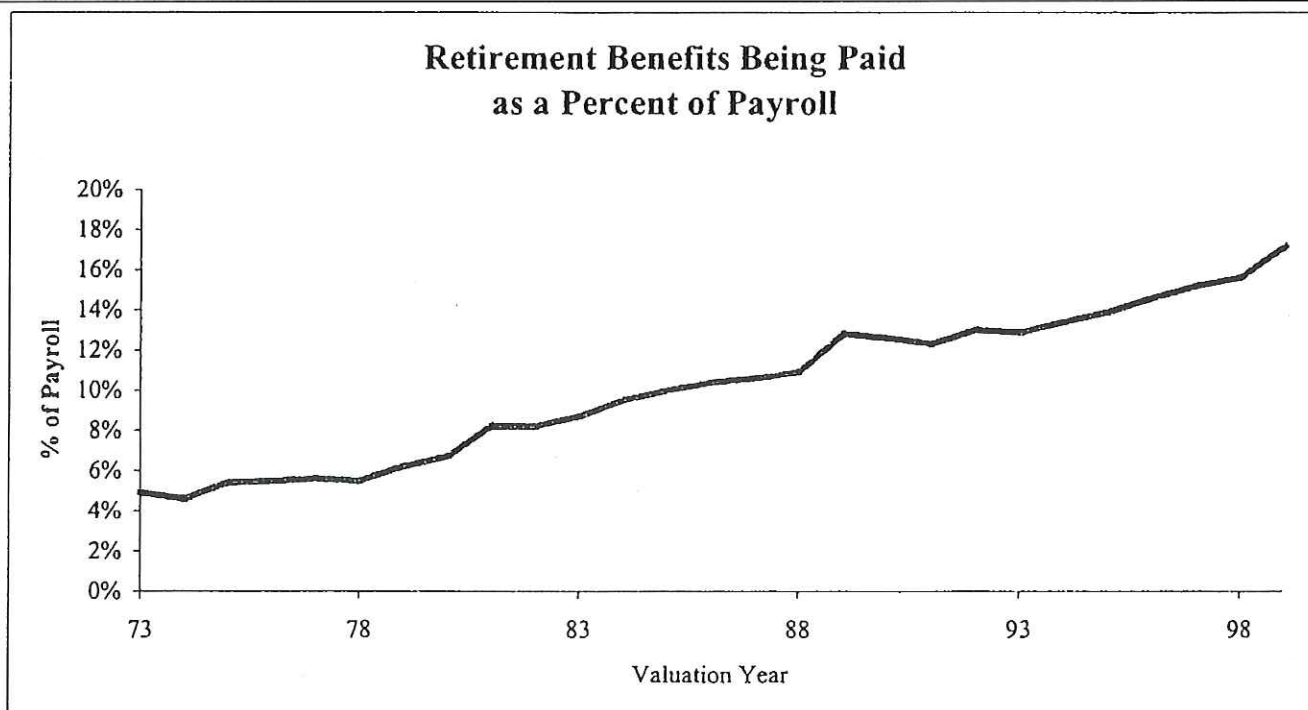
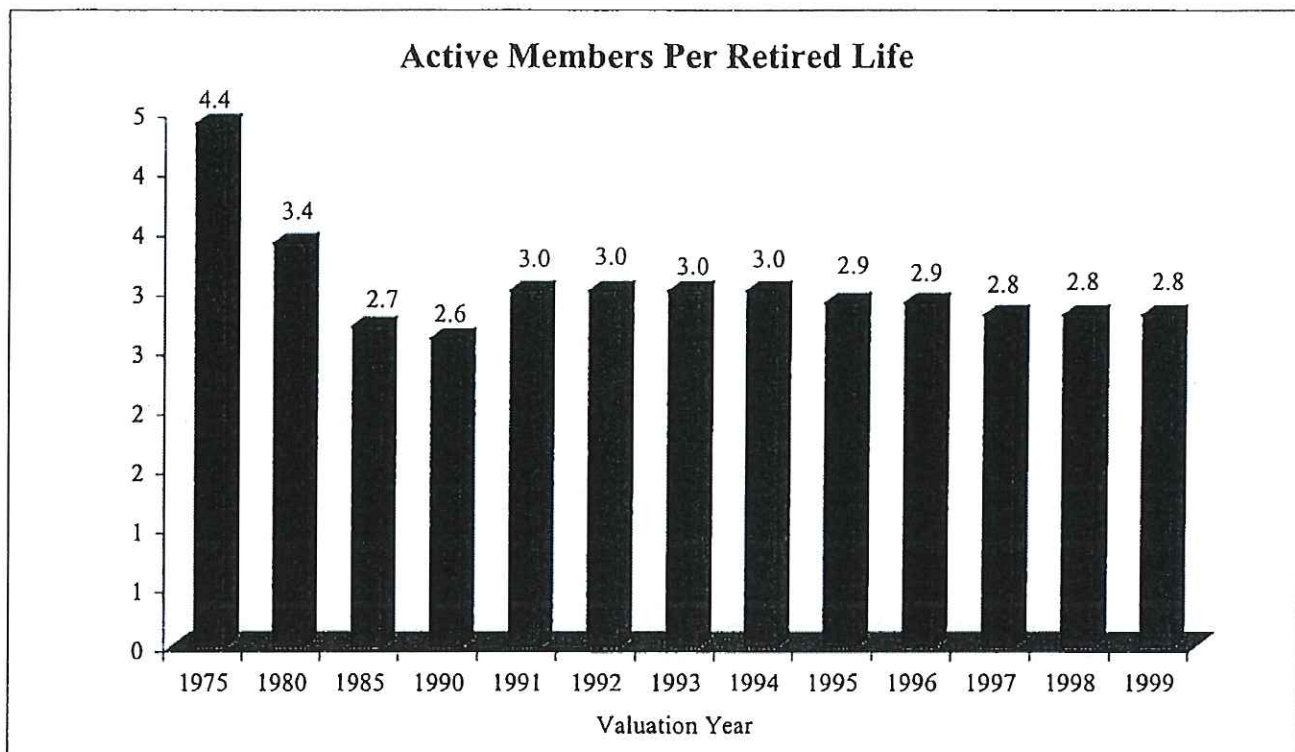
Comparison of Asset Values



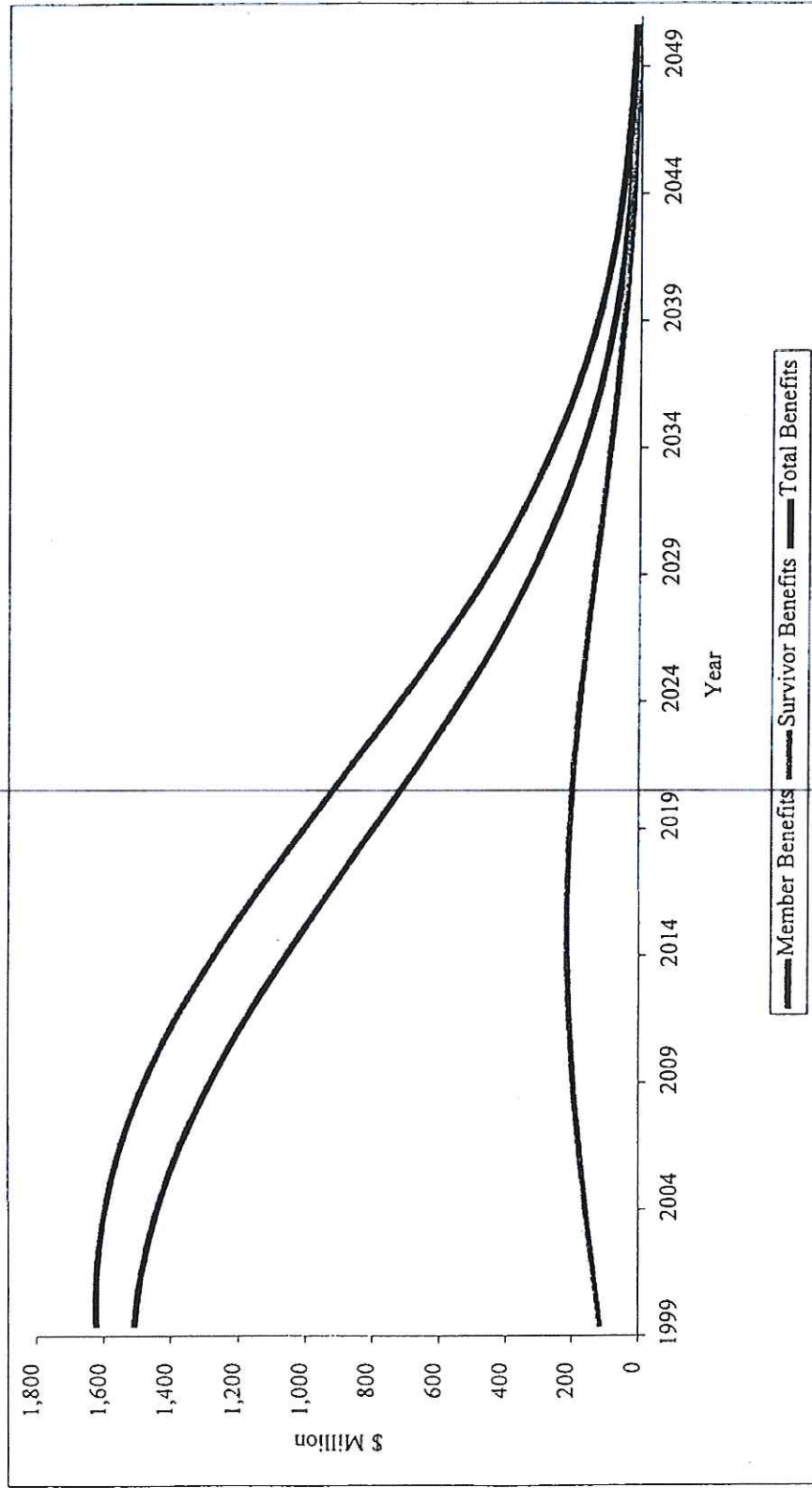
DEVELOPMENT OF PRESENT POPULATION DECEMBER 31, 1999



The charts show the expected future development of the present population in simplified terms. The retirement system presently covers 360,532 active members. Eventually, 30% of the population is expected to terminate covered employment prior to retirement and forfeit eligibility for a monthly benefit. 60% of the present population is expected to receive monthly retirement benefits either by retiring directly from active service, or by separating from service without withdrawing contributions. 10% of the present population is expected to become eligible for death-in-service or disability benefits. Within 9 years, over half of the covered membership is expected to consist of new hires.



PROJECTED FUTURE BENEFIT PAYMENTS ON BEHALF OF PRESENT RETIRED LIVES



Total future payments: \$39.2 billion
 From present assets: \$17.0 billion
 From future earnings: \$22.2 billion

ALL DIVISIONS
ACTIVE MEMBERS IN VALUATION DECEMBER 31, 1999
BY ATTAINED AGE AND YEARS OF SERVICE

| Attained Ages | Years of Service to Valuation Date | | | | | | | Total Number | Payroll |
|------------------|------------------------------------|---------------|---------------|---------------|---------------|---------------|--------------|-----------------|------------------------|
| | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30+ | | |
| 15-19 | 14,198 | | | | | | | 14,198 | \$60,684,911 |
| 20-24 | 25,781 | 314 | | | | | | 26,095 | 249,928,011 |
| 25-29 | 25,874 | 5,171 | 154 | | | | | 31,199 | 646,610,810 |
| 30-34 | 20,536 | 12,064 | 4,420 | 134 | | | | 37,154 | 970,935,485 |
| 35-39 | 18,653 | 11,260 | 10,901 | 4,539 | 473 | | | 45,826 | 1,308,074,557 |
| 40-44 | 17,855 | 10,857 | 10,143 | 8,641 | 6,064 | 367 | | 53,927 | 1,631,945,342 |
| 45-49 | 14,681 | 10,033 | 9,154 | 7,182 | 8,201 | 4,388 | 190 | 53,829 | 1,725,050,364 |
| 50 | 2,297 | 1,858 | 1,694 | 1,212 | 1,262 | 1,176 | 207 | 9,706 | 322,188,080 |
| 51 | 2,346 | 1,756 | 1,728 | 1,193 | 1,217 | 1,200 | 281 | 9,721 | 320,868,348 |
| 52 | 2,148 | 1,629 | 1,618 | 1,238 | 1,159 | 1,125 | 304 | 9,221 | 301,289,154 |
| 53 | 2,227 | 1,780 | 1,755 | 1,270 | 1,183 | 1,024 | 399 | 9,638 | 311,720,221 |
| 54 | 1,420 | 1,110 | 1,141 | 792 | 717 | 600 | 261 | 6,041 | 194,163,233 |
| 55 | 1,385 | 996 | 1,104 | 863 | 693 | 538 | 271 | 5,850 | 183,640,198 |
| 56 | 1,294 | 924 | 1,003 | 795 | 710 | 444 | 238 | 5,408 | 165,679,674 |
| 57 | 1,382 | 1,061 | 1,105 | 942 | 731 | 479 | 278 | 5,978 | 176,794,707 |
| 58 | 1,124 | 932 | 972 | 784 | 672 | 407 | 242 | 5,133 | 155,162,055 |
| 59 | 1,015 | 777 | 878 | 733 | 613 | 346 | 178 | 4,540 | 131,931,046 |
| 60 | 903 | 702 | 762 | 609 | 515 | 345 | 200 | 4,036 | 116,630,714 |
| 61 | 835 | 625 | 582 | 528 | 461 | 276 | 166 | 3,473 | 98,243,942 |
| 62 | 733 | 560 | 604 | 472 | 409 | 271 | 141 | 3,190 | 88,806,645 |
| 63 | 656 | 487 | 409 | 337 | 282 | 182 | 119 | 2,472 | 62,904,154 |
| 64 | 576 | 399 | 358 | 278 | 239 | 176 | 105 | 2,131 | 53,695,187 |
| 65 | 508 | 339 | 298 | 240 | 216 | 132 | 90 | 1,823 | 43,056,728 |
| 66 | 506 | 274 | 204 | 162 | 115 | 101 | 86 | 1,448 | 31,884,555 |
| 67 | 472 | 229 | 162 | 120 | 115 | 85 | 56 | 1,239 | 24,703,581 |
| 68 | 423 | 182 | 175 | 122 | 80 | 57 | 53 | 1,092 | 20,341,401 |
| 69 | 438 | 209 | 125 | 99 | 75 | 50 | 50 | 1,046 | 17,718,791 |
| 70 & Over | 2,186 | 1,291 | 492 | 360 | 337 | 226 | 226 | 5,118 | 62,347,743 |
| Totals | 162,452 | 67,819 | 51,941 | 33,645 | 26,539 | 13,995 | 4,141 | 360,532 | \$9,476,999,637 |

ALL DIVISIONS
ACTIVE MEMBERS IN VALUATION DECEMBER 31, 1999
BY YEARS OF SERVICE

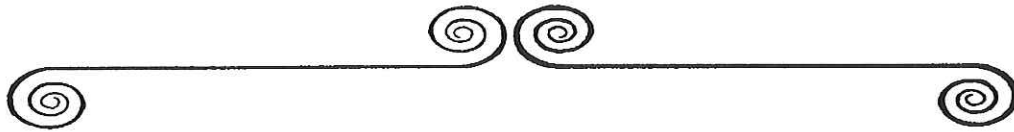
| Service Years | Active Member Count | | | Active Member Pays | |
|------------------|---------------------|----------------|----------------|------------------------|-----------------|
| | Males | Females | Total | Total | Average |
| 0 | 31,392 | 37,382 | 68,774 | \$680,618,062 | \$9,896 |
| 1 | 15,858 | 18,649 | 34,507 | 565,483,553 | 16,388 |
| 2 | 10,973 | 12,767 | 23,740 | 482,237,575 | 20,313 |
| 3 | 8,693 | 10,297 | 18,990 | 444,171,044 | 23,390 |
| 4 | 7,765 | 8,676 | 16,441 | 409,828,290 | 24,927 |
| 5 | 7,595 | 8,225 | 15,820 | 437,331,618 | 27,644 |
| 6 | 6,442 | 7,101 | 13,543 | 369,601,522 | 27,291 |
| 7 | 5,566 | 6,410 | 11,976 | 348,509,736 | 29,101 |
| 8 | 6,279 | 7,287 | 13,566 | 400,050,242 | 29,489 |
| 9 | 5,873 | 7,041 | 12,914 | 420,116,498 | 32,532 |
| 10 | 5,630 | 6,543 | 12,173 | 395,948,785 | 32,527 |
| 11 | 5,028 | 6,211 | 11,239 | 380,332,892 | 33,840 |
| 12 | 4,692 | 5,442 | 10,134 | 350,502,236 | 34,587 |
| 13 | 4,381 | 4,958 | 9,339 | 331,021,981 | 35,445 |
| 14 | 4,363 | 4,693 | 9,056 | 323,355,091 | 35,706 |
| 15 & Up | 40,134 | 38,186 | 78,320 | 3,137,890,512 | 40,065 |
| Totals | 170,664 | 189,868 | 360,532 | \$9,476,999,637 | \$26,286 |

RETIREMENT SYSTEM TOTALS
DECEMBER 31, 1999
(\$ MILLIONS)

| Division | Active Members | | Retired Lives | | Actuarial Accrued Liabilities | | | Unfunded | | Amort. Years |
|-------------------|----------------|-----------------|----------------|-------------------|-------------------------------|-----------------|-----------------|------------------|--------------|-----------------|
| | Number | Annual Payroll | Number | Annual Allowances | Active & Inactive Members | Retired Lives | Total | Assets | Liabilities | |
| State | 112,761 | \$ 3,592 | 46,538 | \$ 670 | \$ 10,299 | \$ 7,119 | \$17,418 | \$ 17,594 | \$ (176) | * |
| Local | 240,005 | 5,586 | 81,271 | 918 | 14,643 | 9,483 | 24,126 | 23,981 | 145 | 2 |
| Law Enforcement A | 889 | 37 | - | - | 158 | - | 158 | 155 | 3 | 18 |
| Law Enforcement B | 6,877 | 262 | 1,847 | 37 | 921 | 447 | 1,368 | 1,330 | 38 | 21 |
| Totals | 360,532 | \$ 9,477 | 129,656 | \$ 1,625 | \$ 26,021 | \$17,049 | \$43,070 | \$ 43,060 | \$ 10 | |

* Accrued liabilities are fully funded.

Section I
Benefits and Conditions Evaluated



BENEFITS AND CONDITIONS EVALUATED

Final average salary ("FAS") means the average of the annual earnings for the 3 highest calendar years of compensation.

Age & Service Benefits - State and Local Government Members

Age and service eligibility - A member who (i) has attained age 60 years and has 5 or more years of service credit, or (ii) has attained age 55 years and has 25 or more years of service credit, or (iii) has 30 or more years of service credit, may retire with an age and service retirement allowance.

Age and service allowance - A retiring member's age and service allowance is equal to Ohio service credit times the greater of \$86, or 2.2% of FAS for the first 30 years of service plus 2.5% for years of service over 30 years (H.B. 628). The allowance is then adjusted by factors based on attained age or years of service as determined in the following schedule:

| Attained Age | OR | Years of Service Credit | Percentage of Base Amount |
|--------------|----|-------------------------|---------------------------|
| 58 | | 25 | 75% |
| 59 | | 26 | 80 |
| 60 | | 27 | 85 |
| 61 | | N/A | 88 |
| N/A | | 28 | 90 |
| 62 | | N/A | 91 |
| 63 | | N/A | 94 |
| N/A | | 29 | 95 |
| 64 | | N/A | 97 |
| 65 | | 30 or more | 100 |

Maximum allowance is 100% of FAS. Minimum allowance is based upon twice the member's savings funding balance at retirement together with interest credits.

Age & Service Benefits - Law Enforcement Members eligible to retire under Ohio Revised Code section 145.33(B)(2)(a)

Age and service eligibility - A law enforcement member who (i) has attained age 52 and has 25 or more years of credited service, or (ii) has attained age 62 and has 15 or more years of credited service, or (iii) has attained age 52 and has 15 or more years of credited service, may retire with an age and service allowance.

Age and service allowance - A retiring member's age and service allowance under eligibility (i) or (ii) above is equal to 2.5% of FAS times the first 25 years of service credit plus 2.1% of FAS times service credit in excess of 25 years (H.B. 628). Maximum allowance is 90% of FAS. A retiring member's age and service allowance under eligibility (iii) above is equal to 1.5% of FAS times years of service credit. Minimum allowance for all law enforcement members is based upon twice the member's savings fund balance at retirement together with interest credits.

Age & Service Benefits - Law Enforcement Members eligible to retire under Ohio Revised Code section 145.33(B)(2)(b)

Age and service eligibility - A law enforcement member who is a Sheriff, Deputy Sheriff, or Township Constable or Police Officer and who (i) has attained age 48 and has 25 or more years of credited service, or (ii) has attained age 62 and has 15 or more years of credited service, or (iii) has attained age 52 and has 15 or more years of credited service, may retire with an age and service allowance.

Age and service allowance - A retiring member's age and service allowance under eligibility (i) or (ii) above is equal to 2.5% of FAS times the first 25 years of service credit plus 2.1% of FAS times service credit in excess of 25 years (H.B. 628). Maximum allowance is 90% of FAS. A retiring member's age and service allowance under eligibility (iii) above is equal to 1.5% of FAS times years of service credit. Minimum allowance for all law enforcement members is based upon twice the member's savings fund balance at retirement together with interest credits.

Health Care Coverage. Health care coverage is available to persons being paid a monthly allowance from PERS. Members retiring with a normal or early service retirement allowance after June 13, 1986 must have 10 or more years of service credit to be eligible for this benefit.

Medicare premiums. Medicare part B premiums are paid for those eligible, upon proof of coverage. Members retiring with a normal or early service retirement allowance after June 13, 1986 must have 10 or more years of service credit to be eligible for this benefit.

Disability retirement. The disability program was revised in order to comply with the Older Workers Benefit Protection Act. Employees becoming members after July 29, 1992 are covered by the post July 29, 1992 program. Other members were able to elect coverage under the pre July 29, 1992 program (original plan) or elect to be covered by the post July 29, 1992 program (revised plan).

Features of the original plan are:

- a) Upon becoming permanently disabled after completion of at least 5 years of service but before attaining age 60, a member is eligible for a disability allowance.
- b) The amount of the allowance is the service the member would have had if employment had continued to age 60 times (i) 2.2% of FAS (H.B. 628), or (ii) \$86, whichever produces the greater benefit.
- c) Maximum allowance is 75% of FAS, minimum allowance is 30% of FAS.

Features of the revised plan are:

- a) A member may apply at any age after completion of 5 years of service. The service requirement is waived for Law Enforcement members with an on-duty illness or injury.
- b) A disability benefit equal to the greater of 45% of FAS or the actual service credit times 2.2% of FAS (H.B. 628) with no early retirement reduction (maximum 60% of FAS). The disability benefit period is to age 65 if the member is disabled prior to age 60. The benefit period declines gradually from 60 months for members disabled at ages 60 and 61 to 12 months for members disabled at age 69 or older.
- c) After the disability benefit ends, a service retirement benefit equal to the greater of (i) the accrued benefit based on actual service, or (ii) 2.2% of FAS (H.B. 628) times service credit including the period of disability (maximum 45% of FAS). In addition, an amount equal to the cost-of-living increases the member would have received had the member retired on the basis of age and service is paid.

Death while eligible to retire. If a member dies in service after becoming eligible to retire with an age and service allowance and leaves a surviving spouse or other sole dependent beneficiary, the survivor receives the same amount that would have been paid had the member retired the last day of the month of death and elected the 100% joint and survivor form of payment.

Survivor (death-in-service) allowances. If a deceased member had at least 1-1/2 years of contributing service credit, with at least ¼ year of such service occurring within the 2-1/2 years prior to death, or was receiving a disability benefit, qualified survivors may receive the following monthly benefits. The benefit paid will be the greater of the applicable benefits paid under the following two schedules (H.B. 628):

Schedule 1

| <u>Number of Qualified Survivors Affecting the Benefit</u> | <u>Annual Benefit as a % of Deceased Member's FAS</u> | <u>Minimum Monthly Benefit</u> |
|--|---|--------------------------------|
| 1 | 25% | \$250 |
| 2 | 40% | \$400 |
| 3 | 50% | \$500 |
| 4 | 55% | \$500 |
| 5 or more | 60% | \$500 |

Schedule 2

| <u>Years of Service</u> | <u>Annual Benefit as a % of Deceased Member's FAS</u> |
|-------------------------|---|
| 20 | 29% |
| 21 | 33% |
| 22 | 37% |
| 23 | 41% |
| 24 | 45% |
| 25 | 48% |
| 26 | 51% |
| 27 | 54% |
| 28 | 57% |
| 29 or more | 60% |

Qualifying survivors who are paid benefits under Schedule 2 share equally in the benefits, except that if there is a surviving spouse, the spouse receives the greater of 25% of FAS or \$250.

A **qualified spouse** is the surviving spouse of a deceased member who is age 62 or at any age if the deceased member had 10 or more years of Ohio service credit or if the surviving spouse is caring for a qualified child or is adjudged physically or mentally incompetent.

A **qualified child** is a child who has never been married and under the age of 18 (or 22 if attending an approved school), or regardless of age is adjudged physically or mentally incompetent at the time of the member's death.

A **qualified parent** is a dependent parent aged 65 or older (earlier if mentally or physically incompetent) who received at least one-half support from the member during the 12-month period immediately preceding the member's death.

Qualified **survivors of disability benefit recipients** have the FAS used in calculating their benefits adjusted for each year between the effective date of the disability benefit and the recipient's date of death. The FAS is adjusted by the lesser of (1) 3% or (2) the actual average percentage change in the CPI.

Post-retirement increases. Each July after June 30, 1971 or the annual anniversary established 12 months after the initial date of retirement, each allowance is increased by the average percentage change in the Consumer Price Index (CPI) plus an accumulation amount if prior year CPIs exceeded 3.0%. Any percentage of change in the CPI in any year that is in excess of 3.0% is accumulated and used to determine increases in future years. The maximum annual increase is 3.0%. The minimum recomputed allowance equals the initial allowance.

Post-retirement death benefit. Upon the death of an age and service or disability retiree, a death benefit in the following amount is payable:

| Service Credit At Retirement | Amount of Death Benefit |
|---------------------------------|----------------------------|
| 5 to 9 years | \$ 500 |
| 10 to 14 years | 1,000 |
| 15 to 19 years | 1,500 |
| 20 to 24 years | 2,000 |
| 25 or more years | 2,500 |

Deferred benefits. A member with at least 5 years of service credit who leaves service before being eligible for an immediate allowance and who does not withdraw accumulated contributions will be entitled to a deferred allowance at age 60. For law enforcement members, the age at which benefits commence depends on the amount of service credit. The amount of the allowance will be based on credited service and final average salary at time of leaving service.

Optional Benefit Forms. Retiring members may elect to have benefits paid in straight life form, in a form that guarantees a minimum number of monthly payments, or in a form that provides a continuation of all or a portion of the monthly benefit to a beneficiary after the death of the retiree. If a retiring member elects benefits in other than straight life form, the monthly amount is adjusted. The adjustment is based upon interest and mortality assumptions (with a blend of male and female mortality rates to produce unisex election factors consistent with the gender distribution of members electing optional forms of payment).

Member contributions. State and local government members contribute 8.5% of salary. The maximum statutory rate is 10% of salary.

Law Enforcement Benefit Group A members contribute 9.0% of salary.

Law Enforcement Benefit Group B members who primarily are Sheriffs, Deputy Sheriffs & Township Constables or Police Officers contribute 10.1% of salary effective 1/1/2001.

Refund of members accumulated contributions. In the event a member leaves service prior to retirement, the member may elect to receive a refund of contributions with interest and may be eligible to receive an additional amount as described below. These refund provisions are available to all members with the exception of certain members in Law Enforcement Benefit Group B. If a member dies prior to retirement and survivor benefits are not payable, the member's contributions with interest are paid to a designated beneficiary or other survivor.

Beginning interest will be credited annually to member contribution balances. The rate of interest credited is determined by the PERS Board and will not be greater than 6%.

If the member has, or had at the time of death, at least 5 years, but less than 10 years of service credit, an additional 33% of the member's contribution balance will be paid to the member or survivor. If the member has, or had at the time of death, at least 10 years of service credit, an additional 67% of the member's contribution balance will be paid to the member or survivor. The additional amount is not paid if the member is a re-employed retiree, or in the case of a deceased member, was receiving disability benefits at the time of death.

Law Enforcement Benefit Group B members who were hired at an age that would permit them to achieve 25 years of Law Enforcement service credit prior to age 52 if they did not terminate employment are **not** eligible for the enhanced refund provisions described above. Such members may receive refunds of contributions in accordance with law as it existed prior to the passage of Senate Bill 144.

Employer contributions. Each employer contributes the remainder amounts necessary to finance PERS benefits. ~~Employer contributions are expressed as percents of member covered payroll. The~~ maximum statutory rate for state and local government members is 14%. The maximum statutory rate for law enforcement members is 18.1% (H.B. 416, effective 1/1/2001).

SAMPLE BENEFIT COMPUTATION
STATE OR LOCAL MEMBER - NORMAL RETIREMENT
RETIRING DECEMBER 31, 1999
UNDER BENEFIT PROVISIONS EVALUATED

Data:

| | | |
|----|-----------------|--|
| A. | <u>\$32,000</u> | Final Average Earnings |
| B. | <u>33</u> | Years of Credited Service |
| C. | <u>59</u> | Age of Retiree |
| D. | <u>56</u> | Age of Spouse |
| E. | <u>100%</u> | Percentage of Pension to Continue to Spouse after retiree's death (Retiree makes the choice of 100% Joint and Survivor with Pop-Up) |

Computations:

| | | |
|----|---|---------------|
| F. | Formula Benefit: $(0.022 \times 30 \text{ years} + 0.025 \times 3 \text{ years}) \times \$32,000 =$ | \$ 23,520 |
| G. | Reduction for Line E Election: $(1 - 0.81756) \times (F) =$ | <u>4,291</u> |
| H. | Benefit Payable to Retiree while Spouse is Alive: $(F) - (G) =$ | 19,229 |
| I. | Benefit Payable to Spouse after Retiree's Death | 19,229 |
| J. | Benefit Payable to Retiree after Spouse's Death | <u>23,520</u> |

Projected Benefits:

| Year Ended December 31, | Retiree's Benefit (Both Alive) | Spouse's Benefit (After Retiree's Death) | Retiree's Benefit (After Spouse's Death) |
|----------------------------|-----------------------------------|---|---|
| 2000 | \$ 19,229 | \$ 19,229 | \$ 23,520 |
| 2001 | 19,806 | 19,806 | 24,226 |
| 2002 | 20,383 | 20,383 | 24,931 |
| 2003 | 20,960 | 20,960 | 25,637 |
| 2004 | 21,536 | 21,536 | 26,342 |
| 2005 | 22,113 | 22,113 | 27,048 |
| 2006 | 22,690 | 22,690 | 27,754 |
| 2007 | 23,267 | 23,267 | 28,459 |
| 2008 | 23,844 | 23,844 | 29,165 |
| 2009 | 24,421 | 24,421 | 29,870 |

SAMPLE BENEFIT COMPUTATION
STATE OR LOCAL MEMBER - EARLY RETIREMENT
RETIRING DECEMBER 31, 1999
UNDER BENEFIT PROVISIONS EVALUATED

Data:

| | | |
|----|-----------------|--|
| A. | <u>\$32,000</u> | Final Average Earnings |
| B. | <u>26</u> | Years of Credited Service |
| C. | <u>59</u> | Age of Retiree |
| D. | <u>56</u> | Age of Spouse |
| E. | <u>100%</u> | Percentage of Pension to Continue to Spouse after retiree's death (Retiree makes the choice of 100% Joint and Survivor with Pop-Up) |

Computations:

| | | |
|----|--|--------------|
| F. | Formula Benefit: $0.022 \times 26 \text{ years} \times \$32,000 =$ | \$ 18,304 |
| G. | Adjustment factor for Early Retirement (from schedule) | 80% |
| H. | Adjusted benefit: $(F) \times (G) =$ | 14,643 |
| I. | Reduction for Line E Election: $(1 - 0.81756) \times (H) =$ | <u>2,672</u> |
| J. | Benefit Payable to Retiree while Spouse is Alive: $(H) - (I)$ | 11,972 |
| K. | Benefit Payable to Spouse after Retiree's Death | 11,972 |
| L. | Benefit Payable to Retiree after Spouse's Death | 14,643 |

Projected Benefits:

| Year Ended December 31, | Retiree's Benefit (Both Alive) | Spouse's Benefit (After Retiree's Death) | Retiree's Benefit (After Spouse's Death) |
|----------------------------|-----------------------------------|---|---|
| 2000 | \$ 11,972 | \$ 11,972 | \$ 14,643 |
| 2001 | 12,331 | 12,331 | 15,082 |
| 2002 | 12,690 | 12,690 | 15,522 |
| 2003 | 13,049 | 13,049 | 15,961 |
| 2004 | 13,408 | 13,408 | 16,400 |
| 2005 | 13,767 | 13,767 | 16,840 |
| 2006 | 14,127 | 14,127 | 17,279 |
| 2007 | 14,486 | 14,486 | 17,718 |
| 2008 | 14,845 | 14,845 | 18,158 |
| 2009 | 15,204 | 15,204 | 18,597 |

SAMPLE BENEFIT COMPUTATION
SECTION 145.33 (B)(2)(B) LAW MEMBER - NORMAL RETIREMENT
RETIRING DECEMBER 31, 1999
UNDER BENEFIT PROVISIONS EVALUATED

Data:

| | | |
|----|-----------------|--|
| A. | <u>\$38,000</u> | Final Average Earnings |
| B. | <u>28</u> | Years of Credited Service |
| C. | <u>49</u> | Age of Retiree |
| D. | <u>46</u> | Age of Spouse |
| E. | <u>100%</u> | Percentage of Pension to Continue to Spouse after retiree's death (Retiree makes the choice of 100% Joint and Survivor with Pop-Up) |

Computations:

| | | |
|----|---|--------------|
| F. | Formula Benefit: $(0.025 \times 25 \text{ years} + 0.021 \times 3 \text{ years}) \times \$38,000 =$ | \$ 26,144 |
| G. | Reduction for Line E Election: $(1 - 0.88728) \times (F) =$ | <u>2,947</u> |
| H. | Benefit Payable to Retiree while Spouse is Alive: $(F) - (G) =$ | 23,197 |
| I. | Benefit Payable to Spouse after Retiree's Death | 23,197 |
| J. | Benefit Payable to Retiree after Spouse's Death | 26,144 |

Projected Benefits:

| Year Ended December 31, | Retiree's Benefit (Both Alive) | Spouse's Benefit (After Retiree's Death) | Retiree's Benefit (After Spouse's Death) |
|----------------------------|-----------------------------------|---|---|
| 2000 | \$ 23,197 | \$ 23,197 | \$ 26,144 |
| 2001 | 23,893 | 23,893 | 26,928 |
| 2002 | 24,589 | 24,589 | 27,713 |
| 2003 | 25,285 | 25,285 | 28,497 |
| 2004 | 25,981 | 25,981 | 29,281 |
| 2005 | 26,677 | 26,677 | 30,066 |
| 2006 | 27,373 | 27,373 | 30,850 |
| 2007 | 28,068 | 28,068 | 31,634 |
| 2008 | 28,764 | 28,764 | 32,419 |
| 2009 | 29,460 | 29,460 | 33,203 |

SAMPLE BENEFIT COMPUTATION
STATE OR LOCAL MEMBER – TERMINATION BENEFIT
RETIRING DECEMBER 31, 1999
UNDER BENEFIT PROVISIONS EVALUATED

Data:

| | | |
|----|----------|--|
| A. | \$32,000 | Final Average Earnings |
| B. | 15 | Years of Credited Service |
| C. | 45 | Age of Member |
| D. | 42 | Age of Spouse |
| E. | 60:57 | Ages at Which Benefits are Payable |
| F. | 100% | Percentage of Pension to Continue to Spouse after retiree's death (Retiree makes the choice of 100% Joint and Survivor with Pop-Up) |
| G. | \$44,000 | Accumulated Contributions with Interest at Termination Date |

Computations:

| | | |
|----|---|-----------|
| H. | Formula Benefit: $(0.022 \times 15 \text{ years} + 0.025 \times 0 \text{ years}) \times \$32,000 =$ | \$ 10,560 |
| I. | Adjustment factor for Early Retirement (from schedule) | 85% |
| J. | Adjusted benefit: $(H) \times (I) =$ | 8,976 |
| K. | Reduction for Line F Election: $(1 - 0.80900) \times (J) =$ | 1,714 |
| L. | Benefit Payable to Retiree while Spouse is Alive: $(J) - (K) =$ | 7,262 |
| M. | Benefit Payable to Spouse after Retiree's Death | 7,262 |
| N. | Benefit Payable to Retiree after Spouse's Death | 8,976 |
| O. | In lieu of a lifetime benefit, terminnee may elect to receive a refund of accumulated contributions with interest plus an additional 67% of eligible accumulated contributions because terminnee had more than 10 years of service. | 73,480 |

Projected Benefits:

| Year Ended December 31, | Retiree's Benefit (Both Alive) | Spouse's Benefit (After Retiree's Death) | Retiree's Benefit (After Spouse's Death) |
|----------------------------|-----------------------------------|---|---|
| 2000 | \$ 7,262 | \$ 7,262 | \$ 8,976 |
| 2001 | 7,479 | 7,479 | 9,245 |
| 2002 | 7,697 | 7,697 | 9,515 |
| 2003 | 7,915 | 7,915 | 9,784 |
| 2004 | 8,133 | 8,133 | 10,053 |
| 2005 | 8,351 | 8,351 | 10,322 |
| 2006 | 8,569 | 8,569 | 10,592 |
| 2007 | 8,787 | 8,787 | 10,861 |
| 2008 | 9,004 | 9,004 | 11,130 |
| 2009 | 9,222 | 9,222 | 11,400 |

SAMPLE BENEFIT COMPUTATION
SECTION 145.33 (B)(2)(B) LAW MEMBER – TERMINATION BENEFIT
RETIRING DECEMBER 31, 1999
UNDER BENEFIT PROVISIONS EVALUATED

Data:

| | | |
|----|----------|--|
| A. | \$38,000 | Final Average Earnings |
| B. | 15 | Years of Credited Service |
| C. | 37 | Age of Retiree |
| D. | 34 | Age of Spouse |
| E. | 52:49 | Ages at Which Benefits are Payable |
| F. | 100% | Percentage of Pension to Continue to Spouse after retiree's death (Retiree makes the choice of 100% Joint and Survivor with Pop-Up) |
| G. | \$46,000 | Accumulated Contributions at Termination Date |

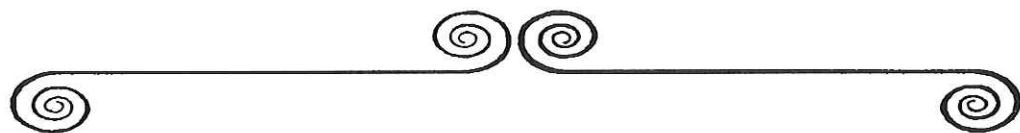
Computations:

| | | |
|----|---|----------|
| H. | Formula Benefit: $(0.015 \times 15 \text{ years}) \times \$38,000 =$ | \$ 8,550 |
| I. | Reduction for Line F Election: $(1 - 0.86885) \times (H) =$ | 1,121 |
| J. | Benefit Payable to Retiree while Spouse is Alive: $(H) - (I) =$ | 7,429 |
| K. | Benefit Payable to Spouse after Retiree's Death | 7,429 |
| L. | Benefit Payable to Retiree after Spouse's Death | 8,550 |
| M. | In lieu of a lifetime benefit, terminatee may elect to receive a refund of accumulated contributions at the time of termination. | 46,000 |

Projected Benefits:

| Year Ended December 31, | Retiree's Benefit (Both Alive) | Spouse's Benefit (After Retiree's Death) | Retiree's Benefit (After Spouse's Death) |
|----------------------------|-----------------------------------|---|---|
| 2000 | \$ 7,429 | \$ 7,429 | \$ 8,550 |
| 2001 | 7,652 | 7,652 | 8,807 |
| 2002 | 7,874 | 7,874 | 9,063 |
| 2003 | 8,097 | 8,097 | 9,320 |
| 2004 | 8,320 | 8,320 | 9,576 |
| 2005 | 8,543 | 8,543 | 9,833 |
| 2006 | 8,766 | 8,766 | 10,089 |
| 2007 | 8,989 | 8,989 | 10,346 |
| 2008 | 9,212 | 9,212 | 10,602 |
| 2009 | 9,434 | 9,434 | 10,859 |

Section II
Recommendations for Reserve Transfers



DECEMBER 31, 1999 RETIRED LIFE VALUATION RESERVE TRANSFERS

Reserve transfers from the Employer Accumulation Fund to the A & PR Fund and/or Survivor Benefit Funds are recommended in the following instances.

- Whenever the December 31 valuation shows unfunded accrued liabilities or assets in excess of computed liabilities in any of the retired life funds.
- To adjust retired life reserves for the payment of health insurance premiums and Medicare reimbursements for the previous 12 month period if this has not already been done.
- To cover the cost of ad-hoc post retirement benefit increases.
- To adjust retired life reserves for any changes in computed liabilities resulting from assumption changes.

By making these annual adjustments in addition to the regular transfers when allowances are added to the rolls, the ratio of assets to liabilities for retired members and beneficiaries will stay at 100%. Year to year changes in this ratio before recommended transfers will normally be isolated to mortality experience within the retired life group.

In 1992, PERS began making interim benefit payments for certain retirements to shorten the delay between the retirement effective date and receipt of the first monthly check. However, reserve transfers are not made until benefit amounts are final. Transfers for these cases have been accrued based upon supplemental information supplied by PERS staff and are shown on the following page. The accruals, when added to other assets, are intended to put retired life reserves in the same position they would have been in if reserve transfers for the interim benefit cases had been coincident with benefit commencement.

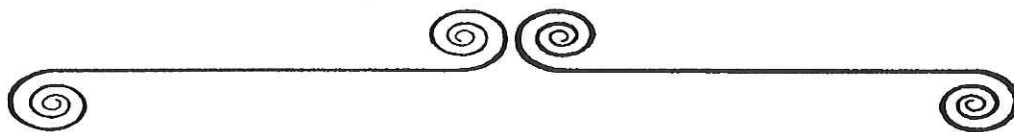
It is recommended that the transfers shown on the following page be made from the Employer Accumulation Fund to the Annuity & Pension Reserve Fund and Survivor Benefit Funds as indicated. The Accrued Transfers is an estimate of pending future transfers for interim cases, and does not require a year end transfer.

RESERVES AND TRANSFERS AFFECTING THE EMPLOYER ACCUMULATION FUND

DECEMBER 31, 1999

| | Assets Before Transfers | Transfers | | Assets After Transfers | Liabilities | Ratio |
|--------------------|----------------------------|----------------------|------------------------|---------------------------|-------------------------|---------------|
| | | Accrued | Other | | | |
| State | | | | | | |
| A&PR FUND | | | | | | |
| JR&SR | \$ 5,276,609,905 | \$ 72,379,095 | \$ | \$5,804,044,675 | \$ 5,804,044,675 | |
| DR | 840,806,390 | 66,687,193 | | 983,484,808 | 983,484,808 | |
| TOTAL A&PR | 6,117,416,295 | 139,066,288 | | 6,787,529,483 | 6,787,529,483 | 100.0% |
| SBF | | | | | | |
| S-1 | 100,216,491 | 1,290,417 | | 112,795,668 | 112,795,668 | |
| S-2 | 187,509,118 | 2,576,019 | | 219,101,318 | 219,101,318 | |
| TOTAL SBF | 287,725,609 | 3,866,436 | | 331,896,986 | 331,896,986 | 100.0% |
| TOTAL STATE | \$ 6,405,141,904 | \$142,932,724 | \$571,351,841 | \$7,119,426,469 | \$ 7,119,426,469 | 100.0% |
| Local | | | | | | |
| A&PR FUND | | | | | | |
| JR&SR | \$ 6,882,992,929 | \$109,675,857 | \$ | \$7,509,397,316 | \$ 7,509,397,316 | |
| DR | 1,223,043,871 | 73,638,191 | | 1,415,713,641 | 1,415,713,641 | |
| TOTAL A&PR | 8,106,036,800 | 183,314,048 | | 8,925,110,957 | 8,925,110,957 | 100.0% |
| SBF | | | | | | |
| S-1 | 141,739,829 | 4,120,916 | | 166,165,165 | 166,165,165 | |
| S-2 | 337,739,370 | 5,985,133 | | 392,178,039 | 392,178,039 | |
| TOTAL SBF | 479,479,199 | 10,106,049 | | 558,343,204 | 558,343,204 | 100.0% |
| TOTAL LOCAL | \$ 8,585,515,999 | \$193,420,097 | \$704,518,065 | \$9,483,454,161 | \$ 9,483,454,161 | 100.0% |
| Law Group A | | | | | | |
| A&PR FUND | | | | | | |
| JR&SR | \$ 0 | \$0 | \$0 | \$0 | 0 | |
| DR | 0 | 0 | 0 | 0 | 0 | |
| TOTAL A&PR | 0 | 0 | 0 | 0 | 0 | |
| SBF | | | | | | |
| S-1 | 0 | 0 | 0 | 0 | 0 | |
| S-2 | 0 | 0 | 0 | 0 | 0 | |
| TOTAL SBF | 0 | 0 | 0 | 0 | 0 | |
| TOTAL LAW GROUP A | \$ 0 | \$ 0 | \$0 | \$0 | \$ 0 | |
| Law Group B | | | | | | |
| A&PR FUND | | | | | | |
| JR&SR | \$ 233,876,455 | \$4,442,722 | (4,728,843) | \$233,590,334 | \$ 233,590,334 | |
| DR | 181,642,964 | 12,365,915 | (1,561,837) | 192,447,042 | 192,447,042 | |
| TOTAL A&PR | 415,519,419 | 16,808,637 | (6,290,680) | 426,037,376 | 426,037,376 | 100.0% |
| SBF | | | | | | |
| S-1 | 6,363,073 | 230,690 | 659,729 | 7,253,492 | 7,253,492 | |
| S-2 | 13,059,473 | 583,342 | (239,568) | 13,403,247 | 13,403,247 | |
| TOTAL SBF | 19,422,546 | 814,032 | 420,161 | 20,656,739 | 20,656,739 | 100.0% |
| TOTAL LAW GROUP B | \$ 434,941,965 | \$ 17,622,669 | \$(5,870,519) | \$446,694,115 | \$ 446,694,115 | 100.0% |
| GRAND TOTAL | \$15,425,599,868 | \$353,975,490 | \$1,269,999,387 | \$17,049,574,745 | \$17,049,574,745 | 100.0% |

Section III
State Division



STATE DIVISION

Data on active, inactive, retired and money purchase members that was used in the valuation is tabulated briefly below.

Active Members in Valuation December 31, 1999

| Groups | Number | Annual Payroll | Average | | |
|---------------|----------------|------------------------|-----------------|-------------|------------|
| | | | Pay | Age | Service |
| Men | 52,238 | \$1,789,978,365 | \$34,266 | 40.9 | 9.6 |
| Women | 60,523 | 1,801,608,593 | 29,767 | 41.5 | 9.5 |
| Totals | 112,761 | \$3,591,586,958 | \$31,851 | 41.2 | 9.6 |

Also included in the valuation were 15,995 inactive members eligible for deferred retirement allowances or contribution refunds and 1,559 members active in the money purchase plan.

Retired Members in Valuation December 31, 1999

| Fund / Type of Allowance | Number | Current Total \$ | Actuarial Liabilities |
|---------------------------|--------|------------------|-----------------------|
| A & PR Fund | | | |
| Superannuation Retirement | 36,337 | \$45,536,776 | \$5,800,567,775 |
| Disability Retirement | 5,416 | 7,357,839 | 983,484,808 |
| Money Purchase | 106 | 34,174 | 3,476,900 |
| Total A & PR Fund | 41,859 | 52,928,789 | 6,787,529,483 |
| Total SBF | 4,679 | 2,902,930 | 331,896,986 |
| Grand Total | 46,538 | \$55,831,719 | \$7,119,426,469 |

**STATE DIVISION
EMPLOYER CONTRIBUTIONS TO SUPPORT
RETIREMENT ALLOWANCES**

**EXPRESSED AS PERCENTS OF ACTIVE MEMBER PAYROLL
DECEMBER 31, 1999**

| Contributions for | Contributions Computed December 31 | |
|---|------------------------------------|---------------|
| | 1999 | 1998 |
| Normal Cost | | |
| Age and Service Allowances | 9.77 % | 9.31 % |
| Disability Allowances | 1.89 % | 1.83 % |
| Survivor's Benefits | 0.72 % | 0.60 % |
| Separation Benefits | 3.80 % | 2.97 % |
| Total Normal Cost | 16.18 % | 14.71 % |
| (Member Current Contributions) | 8.50 % | 8.50 % |
| Employer Normal Cost | 7.68 % | 6.21 % |
| Unfunded Actuarial Accrued Liabilities | | |
| Financing Years* | # | # |
| Total Available Contribution | 1.33 % | 2.90 % |
| Total Employer Contribution Rate | 9.01 % | 9.11 % |

State Division accrued liabilities are fully funded.

* The period sufficient to produce an Employer Contribution Rate of 9.01% of payroll for retirement allowances and survivor benefits.

STATE DIVISION COMPARATIVE STATEMENT

| December 31 | Active Members in Valuation | | | Total Employer Contributions as % of Payroll | | | | | |
|-------------|-----------------------------|----------------|-----------|--|-------------|------------------|-------------|----------------|-------------|
| | No. | Annual Payroll | | Increase | Normal Cost | Unfunded Accrued | Basic Total | Retiree Health | Grand Total |
| | | Total | Average | | | | | | |
| | | (Millions) | | | | | | | |
| 1990 | 98,939 | \$ 2,501 | \$ 25,281 | 57 % | 6.51 % | 2.78 % | 9.29 % | 4.42 % | 13.71 % |
| 1991& | 107,025 | 2,693 | 25,163 | (0.5)% | 6.57 % | 2.45 % | 9.02 % | 4.29 % | 13.31 % |
| 1992 | 109,701 | 2,767 | 25,224 | 0.2 % | 6.41 % | 2.61 % | 9.02 % | 4.29 % | 13.31 % |
| 1993 | 112,748 | 2,894 | 25,673 | 1.8 % | 6.40 % | 2.62 % | 9.02 % | 4.29 % | 13.31 % |
| 1994 | 115,238 | 3,063 | 26,580 | 3.5 % | 6.66 % | 2.36 % | 9.02 % | 4.29 % | 13.31 % |
| 1995 | 114,596 | 3,204 | 27,962 | 5.2 % | 6.67 % | 2.35 % | 9.02 % | 4.29 % | 13.31 % |
| 1996@ | 115,712 | 3,319 | 28,684 | 2.6 % | 6.21 % | 2.81 % | 9.02 % | 4.29 % | 13.31 % |
| 1997 | 114,036 | 3,405 | 29,858 | 4.1 % | 6.21 % | 2.90 % | 9.11 % | 4.20 % | 13.31 % |
| 1998 | 112,323 | 3,500 | 31,159 | 4.4 % | 6.21 % | 2.90 % | 9.11 % | 4.20 % | 13.31 % |
| 1999 | 112,761 | 3,592 | 31,851 | 2.2 % | 6.24 % | 2.77 % | 9.01 % | 4.30 % | 13.31 % |
| 1999# | 112,761 | 3,592 | 31,851 | 2.2 % | 7.68 % | 1.33 % | 9.01 % | 4.30 % | 13.31 % |

After benefit changes.

@ Revised actuarial assumptions.

& Reflects inclusion of part-time, seasonal, and temporary employees in compliance with OBRA 90 and revised actuarial assumptions.

STATE DIVISION
DEVELOPMENT OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES
COMPARATIVE STATEMENT

| Actuarial Present Value December 31, of | (1) Total Actuarial Present Value | Allocation by Entry Age | |
|---|---|---|---|
| | | (2) Portion Covered By Future Normal Cost Contributions | (3) Actuarial Accrued Liabilities (1)-(2) |
| Allowances currently being paid from the Annuity & Pension Reserve Fund | \$ 6,787,529,483 | \$ - | \$ 6,787,529,483 |
| Allowances currently being paid from the Survivors Benefit Fund | 331,896,986 | - | 331,896,986 |
| Age and service allowances based on service rendered before and likely to be rendered after valuation date | 11,929,305,426 | 3,437,794,501 | 8,491,510,925 |
| Disability allowances likely to be paid present active members who become permanently disabled | 1,457,111,092 | 645,516,174 | 811,594,918 |
| Survivor benefits likely to be paid to spouses and children of present active members who die before retiring | 575,713,048 | 247,409,502 | 328,303,546 |
| Separation benefits (refunds of contributions and deferred allowances) likely to be paid to present active and inactive members | 2,052,263,031 | 1,385,532,194 | 666,730,837 |
| Total | \$23,133,819,066 | \$5,716,252,371 | \$17,417,566,695 |
| Actuarial Value of Assets | | | 17,594,064,244 |
| Unfunded Actuarial Accrued Liability | | | \$ (176,497,549) |

STATE DIVISION
DEVELOPMENT OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES
COMPARATIVE STATEMENT
(\$ IN MILLIONS EXCEPT AVERAGES)

| Dec. 31 | Active Payroll | | Active and Inactive Member Accrued Liabilities for Retirement Allowances | | | | Unfunded /Payroll |
|---------|----------------|----------|---|-----------|----------|--------|----------------------|
| | | | Computed | Valuation | Unfunded | Amort. | |
| | Total | Average | Total | Assets | | Years | |
| 1990@ | \$2,501 | \$25,281 | \$ 5,091 | \$3,391 | \$1,700 | 34 | 0.68 |
| 1991& | 2,693 | 25,163 | 5,528 | 4,030 | 1,498 | 32 | 0.56 |
| 1992 | 2,767 | 25,224 | 5,934 | 4,552 | 1,382 | 25 | 0.50 |
| 1993 | 2,894 | 25,673 | 6,671 | 5,357 | 1,314 | 22 | 0.45 |
| 1994 | 3,063 | 26,580 | 7,182 | 5,956 | 1,226 | 21 | 0.40 |
| 1995 | 3,204 | 27,962 | 7,811 | 6,706 | 1,105 | 17 | 0.34 |
| 1996@ | 3,319 | 28,684 | 8,104 | 7,387 | 717 | 8 | 0.22 |
| 1997 | 3,405 | 29,858 | 8,591 | 8,268 | 323 | 3 | 0.09 |
| 1998 | 3,500 | 31,159 | 9,223 | 9,666 | (443) | - | - |
| 1999 | 3,592 | 31,851 | 9,809 | 11,061 | (1,252) | - | - |
| 1999# | 3,592 | 31,851 | 10,298 | 10,474 | (176) | - | - |

After benefit changes.

@ Revised actuarial assumptions.

& Reflects inclusion of part-time seasonal, and temporary employees in compliance with OBRA 90 and revised actuarial assumptions.

While no one or two numeric indices can fully describe the financial condition of a retirement plan, the ratio of unfunded actuarial accrued liabilities divided by active member payroll ("UNFUNDED / PAYROLL" above) is significant. Unfunded actuarial accrued liabilities represent plan debt, while active member payroll represents the plan's capacity to collect contributions to pay toward debt --- thus the ratio is a relative index of condition. The lower the ratio, the greater the financial strength. And vice-versa.

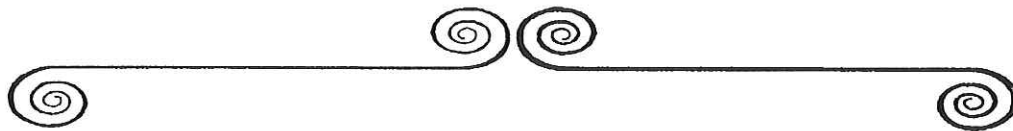
STATE DIVISION
MALE ACTIVE MEMBERS IN VALUATION DECEMBER 31, 1999
BY ATTAINED AGE AND YEARS OF SERVICE

| Attained Ages | Years of Service to Valuation Date | | | | | | | Total Number | Payroll |
|------------------|------------------------------------|--------------|--------------|--------------|--------------|--------------|------------|-----------------|------------------------|
| | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30+ | | |
| 15-19 | 932 | | | | | | | 932 | \$4,816,493 |
| 20-24 | 4,372 | 14 | | | | | | 4,386 | 41,755,070 |
| 25-29 | 3,960 | 681 | 8 | | | | | 4,649 | 105,032,723 |
| 30-34 | 3,036 | 2,269 | 665 | 8 | | | | 5,978 | 186,936,929 |
| 35-39 | 2,421 | 1,948 | 2,107 | 893 | 73 | | | 7,442 | 264,756,195 |
| 40-44 | 1,936 | 1,484 | 1,720 | 1,796 | 1,042 | 41 | | 8,019 | 308,597,365 |
| 45-49 | 1,595 | 1,193 | 1,403 | 1,420 | 1,521 | 775 | 46 | 7,953 | 326,180,149 |
| 50 | 246 | 230 | 244 | 221 | 215 | 264 | 35 | 1,455 | 63,401,219 |
| 51 | 282 | 213 | 240 | 235 | 236 | 284 | 69 | 1,559 | 69,399,869 |
| 52 | 233 | 199 | 206 | 222 | 179 | 252 | 49 | 1,340 | 59,702,509 |
| 53 | 252 | 212 | 256 | 198 | 204 | 196 | 100 | 1,418 | 63,462,007 |
| 54 | 150 | 140 | 177 | 137 | 106 | 118 | 63 | 891 | 40,141,702 |
| 55 | 143 | 124 | 128 | 125 | 104 | 112 | 68 | 804 | 35,768,375 |
| 56 | 131 | 111 | 132 | 96 | 82 | 95 | 69 | 716 | 32,620,952 |
| 57 | 139 | 124 | 128 | 124 | 78 | 76 | 75 | 744 | 31,181,849 |
| 58 | 99 | 126 | 101 | 90 | 88 | 71 | 50 | 625 | 26,862,931 |
| 59 | 97 | 82 | 102 | 108 | 62 | 54 | 31 | 536 | 22,609,420 |
| 60 | 78 | 76 | 82 | 83 | 61 | 54 | 48 | 482 | 20,425,886 |
| 61 | 95 | 65 | 68 | 79 | 50 | 38 | 37 | 432 | 17,671,336 |
| 62 | 74 | 58 | 83 | 58 | 43 | 35 | 33 | 384 | 15,497,588 |
| 63 | 56 | 49 | 50 | 37 | 43 | 27 | 25 | 287 | 12,115,251 |
| 64 | 53 | 38 | 42 | 34 | 24 | 21 | 20 | 232 | 9,191,394 |
| 65 | 49 | 27 | 33 | 28 | 24 | 17 | 12 | 190 | 6,908,031 |
| 66 | 47 | 28 | 18 | 27 | 7 | 14 | 13 | 154 | 5,838,440 |
| 67 | 41 | 21 | 18 | 13 | 14 | 8 | 16 | 131 | 4,530,566 |
| 68 | 27 | 15 | 18 | 15 | 10 | 7 | 9 | 101 | 3,952,995 |
| 69 | 35 | 12 | 8 | 11 | 3 | 4 | 5 | 78 | 2,368,020 |
| 70 & Over | 146 | 52 | 27 | 22 | 18 | 22 | 33 | 320 | 8,253,101 |
| Totals | 20,725 | 9,591 | 8,064 | 6,080 | 4,287 | 2,585 | 906 | 52,238 | \$1,789,978,365 |

STATE DIVISION
FEMALE ACTIVE MEMBERS IN VALUATION DECEMBER 31, 1999
BY ATTAINED AGE AND YEARS OF SERVICE

| Attained Ages | Years of Service to Valuation Date | | | | | | | Total Number | Payroll |
|------------------|------------------------------------|---------------|---------------|--------------|--------------|--------------|------------|-----------------|------------------------|
| | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30+ | | |
| 15-19 | 987 | | | | | | | 987 | \$4,990,372 |
| 20-24 | 4,946 | 31 | | | | | | 4,977 | 44,692,951 |
| 25-29 | 4,196 | 809 | 21 | | | | | 5,026 | 111,256,876 |
| 30-34 | 3,245 | 2,165 | 871 | 29 | | | | 6,310 | 177,799,411 |
| 35-39 | 2,823 | 1,952 | 2,203 | 941 | 119 | | | 8,038 | 252,594,990 |
| 40-44 | 2,612 | 1,863 | 1,985 | 1,787 | 1,251 | 74 | | 9,572 | 320,196,376 |
| 45-49 | 2,236 | 1,796 | 1,840 | 1,392 | 1,598 | 821 | 46 | 9,729 | 342,026,182 |
| 50 | 349 | 318 | 319 | 267 | 247 | 197 | 41 | 1,738 | 62,195,987 |
| 51 | 355 | 297 | 366 | 223 | 221 | 173 | 49 | 1,684 | 59,422,661 |
| 52 | 292 | 261 | 360 | 243 | 222 | 167 | 75 | 1,620 | 57,348,166 |
| 53 | 346 | 302 | 377 | 250 | 235 | 180 | 66 | 1,756 | 61,947,269 |
| 54 | 202 | 196 | 223 | 154 | 162 | 131 | 51 | 1,119 | 39,329,899 |
| 55 | 177 | 151 | 241 | 190 | 148 | 108 | 47 | 1,062 | 36,776,024 |
| 56 | 150 | 137 | 201 | 167 | 157 | 79 | 37 | 928 | 32,282,335 |
| 57 | 157 | 134 | 216 | 199 | 165 | 91 | 30 | 992 | 33,738,138 |
| 58 | 127 | 120 | 189 | 182 | 162 | 77 | 34 | 891 | 31,133,734 |
| 59 | 104 | 106 | 176 | 163 | 145 | 85 | 22 | 801 | 27,484,608 |
| 60 | 99 | 88 | 137 | 115 | 103 | 66 | 27 | 635 | 21,074,024 |
| 61 | 74 | 70 | 112 | 104 | 110 | 46 | 19 | 535 | 19,118,705 |
| 62 | 57 | 65 | 102 | 110 | 97 | 50 | 22 | 503 | 17,035,799 |
| 63 | 49 | 51 | 77 | 61 | 59 | 31 | 14 | 342 | 11,423,424 |
| 64 | 35 | 32 | 61 | 52 | 52 | 27 | 16 | 275 | 8,920,722 |
| 65 | 32 | 31 | 38 | 50 | 32 | 27 | 18 | 228 | 7,571,871 |
| 66 | 40 | 26 | 25 | 27 | 22 | 27 | 15 | 182 | 5,283,434 |
| 67 | 23 | 16 | 15 | 18 | 20 | 18 | 8 | 118 | 3,455,604 |
| 68 | 31 | 13 | 25 | 17 | 13 | 7 | 9 | 115 | 2,927,996 |
| 69 | 14 | 11 | 13 | 15 | 14 | 9 | 7 | 83 | 2,748,307 |
| 70 & Over | 54 | 37 | 35 | 42 | 45 | 34 | 30 | 277 | 6,832,728 |
| Totals | 23,812 | 11,078 | 10,228 | 6,798 | 5,399 | 2,525 | 683 | 60,523 | \$1,801,608,593 |

Section IV
Local Government Division



LOCAL GOVERNMENT DIVISION

Data on active, inactive, retired and money purchase members that was used in the valuation is tabulated briefly below.

Active Members in Valuation December 31, 1999

| Groups | Number | Annual Payroll | Average | | |
|---------------|----------------|------------------------|-----------------|-------------|------------|
| | | | Pay | Age | Service |
| Men | 111,513 | \$2,819,394,398 | \$25,283 | 42.4 | 8.5 |
| Women | 128,492 | 2,766,978,282 | 21,534 | 41.1 | 7.6 |
| Totals | 240,005 | \$5,586,372,680 | \$23,276 | 41.7 | 8.0 |

Also included in the valuation were 27,594 inactive members eligible for deferred retirement allowances or contribution refunds and 6,061 members active in the money purchase plan.

Retired Members in Valuation December 31, 1999

| Fund / Type of Allowance | Number | Current Total \$ | Actuarial Liabilities |
|---------------------------|--------|------------------|-----------------------|
| A & PR Fund | | | |
| Superannuation Retirement | 63,342 | \$60,560,124 | \$7,504,188,068 |
| Disability Retirement | 8,353 | 11,075,564 | 1,415,713,641 |
| Money Purchase | 279 | 50,727 | 5,209,248 |
| Total A & PR Fund | 71,974 | 71,686,415 | 8,925,110,957 |
| Total SBF | 9,297 | 4,834,686 | 558,343,202 |
| Grand Total | 81,271 | \$76,521,101 | \$9,483,454,159 |

**LOCAL GOVERNMENT DIVISION
EMPLOYER CONTRIBUTIONS TO SUPPORT
RETIREMENT ALLOWANCES
EXPRESSED AS PERCENTS OF ACTIVE MEMBER PAYROLL**

| Contributions for | Contributions Computed December 31 | |
|---|------------------------------------|---------------|
| | 1999 | 1998 |
| Normal Cost | | |
| Age and Service Allowances | 9.28 % | 8.84 % |
| Disability Allowances | 2.11 % | 2.03 % |
| Survivor's Benefits | 0.72 % | 0.58 % |
| Separation Benefits | 4.07 % | 3.22 % |
| Total Normal Cost | 16.18 % | 14.67 % |
| (Member Current Contributions) | 8.50 % | 8.50 % |
| Employer Normal Cost | 7.68 % | 6.17 % |
| Unfunded Actuarial Accrued Liabilities | | |
| Financing Years* | 2 | # |
| Total Available Contribution | 1.57 % | 3.18 % |
| Total Employer Contribution Rate | 9.25 % | 9.35 % |

Local Government Division accrued liabilities are fully funded.

* The period sufficient to produce an Employer Contribution Rate of 9.25% of payroll for retirement allowances and survivor benefits.

LOCAL GOVERNMENT DIVISION COMPARATIVE STATEMENT

| December 31 | Active Members in Valuation | | | Total Employer Contributions as % of Payroll | | | | |
|-------------|-----------------------------|----------------|-----------|--|------------------|-------------|----------------|-------------|
| | No. | Annual Payroll | | Normal Cost | Unfunded Accrued | Basic Total | Retiree Health | Grand Total |
| | | Total | Average | | | | | |
| | | (Millions) | | | | | | |
| 1990* | 173,220 | \$ 3,379 | \$ 19,506 | 4.4 % | 2.67 % | 8.69 % | 5.26 % | 13.95 % |
| 1991& | 211,835 | 3,789 | 17,884 | (8.3)% | 2.49 % | 8.44 % | 5.11 % | 13.55 % |
| 1992 | 218,295 | 3,953 | 18,109 | 1.3 % | 2.64 % | 8.44 % | 5.11 % | 13.55 % |
| 1993 | 220,410 | 4,159 | 18,869 | 4.2 % | 2.59 % | 8.44 % | 5.11 % | 13.55 % |
| 1994 | 221,987 | 4,366 | 19,666 | 4.2 % | 2.28 % | 8.44 % | 5.11 % | 13.55 % |
| 1995 | 223,431 | 4,555 | 20,384 | 3.7 % | 2.27 % | 8.44 % | 5.11 % | 13.55 % |
| 1996* | 229,954 | 4,792 | 20,839 | 2.2 % | 2.28 % | 8.44 % | 5.11 % | 13.55 % |
| 1997 | 231,668 | 4,976 | 21,481 | 3.1 % | 3.20 % | 9.35 % | 4.20 % | 13.55 % |
| 1998 | 234,601 | 5,240 | 22,334 | 4.0 % | 3.18 % | 9.35 % | 4.20 % | 13.55 % |
| 1999 | 240,005 | 5,586 | 23,276 | 4.2 % | 3.04 % | 9.25 % | 4.30 % | 13.55 % |
| 1999# | 240,005 | 5,586 | 23,276 | 4.2 % | 1.57 % | 9.25 % | 4.30 % | 13.55 % |

After benefit changes.

* Revised actuarial assumptions.

& Reflects inclusion of part-time, seasonal and temporary employees in compliance with OBRA 90 and revised actuarial assumptions.

LOCAL GOVERNMENT DIVISION
DEVELOPMENT OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES
DECEMBER 31, 1999

| Actuarial Present Value December 31, of | (1) Total Actuarial Present Value | Allocation by Entry Age | |
|---|---|---|---|
| | | (2) Portion Covered By Future Normal Cost Contributions | (3) Actuarial Accrued Liabilities (1)-(2) |
| Allowances currently being paid from the Annuity & Pension Reserve Fund | \$ 8,925,110,957 | \$ - | \$ 8,925,110,957 |
| Allowances currently being paid from the Survivors Benefit Fund | 558,343,202 | - | 558,343,202 |
| Age and service allowances based on service rendered before and likely to be rendered after valuation date | 16,800,240,681 | 4,858,510,237 | 11,941,730,444 |
| Disability allowances likely to be paid present active members who become permanently disabled | 2,290,862,968 | 1,095,050,162 | 1,195,812,806 |
| Survivor benefits likely to be paid to spouses and children of present active members who die before retiring | 845,360,274 | 363,940,110 | 481,420,164 |
| Separation benefits (refunds of contributions and deferred allowances) likely to be paid to present active and inactive members | 3,259,634,839 | 2,235,750,476 | 1,023,884,363 |
| Total | \$32,679,552,921 | \$8,553,250,985 | \$24,126,301,936 |
| Actuarial Value of Assets | | | 23,980,981,515 |
| Unfunded Actuarial Accrued Liability | | | \$ 145,320,421 |

LOCAL GOVERNMENT DIVISION
DEVELOPMENT OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES
COMPARATIVE STATEMENT
(\$ IN MILLIONS EXCEPT AVERAGES)

| Dec. 31 | Active Payroll | | Active and InactiveMember Accrued Liabilities for Retirement Allowances | | | | Unfunded /Payroll |
|---------|----------------|----------|--|---------------------|----------|-----------------|----------------------|
| | | | Computed Total | Valuation Assets | Unfunded | Amort. Years | |
| | Total | Average | | | | | |
| 1990@ | \$ 3,379 | \$19,506 | \$ 6,666 | \$ 4,335 | \$ 2,331 | 37 | 0.69 |
| 1991& | 3,789 | 17,884 | 7,479 | 5,181 | 2,298 | 36 | 0.61 |
| 1992 | 3,953 | 18,109 | 8,147 | 6,046 | 2,101 | 27 | 0.53 |
| 1993 | 4,159 | 18,869 | 9,291 | 7,147 | 2,144 | 26 | 0.52 |
| 1994 | 4,366 | 19,666 | 9,894 | 7,814 | 2,080 | 28 | 0.48 |
| 1995 | 4,555 | 20,384 | 10,630 | 8,856 | 1,774 | 21 | 0.39 |
| 1996@ | 4,792 | 20,839 | 11,286 | 9,940 | 1,346 | 15 | 0.28 |
| 1997 | 4,976 | 21,481 | 11,973 | 11,218 | 755 | 5 | 0.15 |
| 1998 | 5,240 | 22,334 | 12,912 | 13,135 | (223) | 0 | 0.00 |
| 1999 | 5,586 | 23,276 | 13,912 | 15,315 | (1,403) | 0 | 0.00 |
| 1999# | 5,586 | 23,276 | 14,643 | 14,498 | 145 | 2 | 0.03 |

After benefit changes.

@ Revised actuarial assumptions.

& Reflects inclusion of part-time, seasonal, and temporary employees in compliance with OBRA 90 and revised actuarial assumptions.

While no one or two numeric indices can fully describe the financial condition of a retirement plan, the ratio of unfunded actuarial accrued liabilities divided by active member payroll ("UNFUNDED / PAYROLL" above) is significant. Unfunded accrued liabilities represent plan debt, while active member payroll represents the plan's capacity to collect contributions to pay toward debt --- thus the ratio is a relative index of condition. The lower the ratio, the greater the financial strength. And vice-versa.

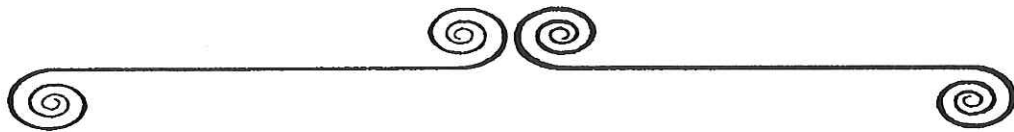
LOCAL GOVERNMENT DIVISION
MALE ACTIVE MEMBERS IN VALUATION DECEMBER 31, 1999
BY ATTAINED AGE AND YEARS OF SERVICE

| Attained Ages | Years of Service to Valuation Date | | | | | | | Total Number | Payroll |
|------------------|------------------------------------|---------------|---------------|--------------|--------------|--------------|--------------|-----------------|------------------------|
| | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30+ | | |
| 15-19 | 5,508 | | | | | | | 5,508 | \$24,312,514 |
| 20-24 | 7,427 | 91 | | | | | | 7,518 | 72,247,383 |
| 25-29 | 7,274 | 1,391 | 38 | | | | | 8,703 | 171,393,235 |
| 30-34 | 6,249 | 3,181 | 1,093 | 33 | | | | 10,556 | 266,545,553 |
| 35-39 | 5,639 | 3,291 | 2,990 | 1,190 | 119 | | | 13,229 | 372,863,303 |
| 40-44 | 5,316 | 3,246 | 3,096 | 2,411 | 1,804 | 136 | | 16,009 | 486,549,843 |
| 45-49 | 4,535 | 2,883 | 2,655 | 2,124 | 2,728 | 1,557 | 64 | 16,546 | 532,770,991 |
| 50 | 727 | 549 | 486 | 351 | 416 | 413 | 80 | 3,022 | 101,096,305 |
| 51 | 739 | 523 | 447 | 357 | 393 | 435 | 95 | 2,989 | 97,622,252 |
| 52 | 719 | 466 | 416 | 314 | 373 | 414 | 117 | 2,819 | 91,918,764 |
| 53 | 722 | 520 | 433 | 342 | 344 | 391 | 135 | 2,887 | 92,765,357 |
| 54 | 456 | 309 | 307 | 212 | 202 | 213 | 92 | 1,791 | 55,739,873 |
| 55 | 480 | 278 | 283 | 226 | 202 | 179 | 100 | 1,748 | 54,387,232 |
| 56 | 501 | 280 | 251 | 194 | 185 | 156 | 75 | 1,642 | 47,515,923 |
| 57 | 555 | 338 | 332 | 203 | 195 | 153 | 98 | 1,874 | 52,703,526 |
| 58 | 473 | 289 | 262 | 196 | 157 | 141 | 105 | 1,623 | 46,792,360 |
| 59 | 457 | 259 | 236 | 192 | 147 | 100 | 77 | 1,468 | 39,444,423 |
| 60 | 384 | 232 | 239 | 167 | 117 | 115 | 68 | 1,322 | 35,244,336 |
| 61 | 372 | 237 | 183 | 151 | 130 | 96 | 68 | 1,237 | 31,736,791 |
| 62 | 332 | 222 | 201 | 138 | 112 | 91 | 57 | 1,153 | 29,476,491 |
| 63 | 331 | 212 | 133 | 104 | 79 | 56 | 47 | 962 | 20,225,983 |
| 64 | 317 | 184 | 118 | 91 | 67 | 62 | 34 | 873 | 18,904,340 |
| 65 | 281 | 152 | 113 | 70 | 57 | 43 | 33 | 749 | 14,666,027 |
| 66 | 280 | 134 | 82 | 47 | 30 | 21 | 28 | 622 | 10,865,848 |
| 67 | 284 | 111 | 76 | 42 | 25 | 28 | 18 | 584 | 9,099,597 |
| 68 | 256 | 96 | 73 | 39 | 20 | 18 | 18 | 520 | 7,112,612 |
| 69 | 276 | 127 | 55 | 34 | 24 | 15 | 22 | 553 | 7,521,250 |
| 70 & Over | 1,430 | 844 | 274 | 177 | 122 | 81 | 78 | 3,006 | 27,872,286 |
| Totals | 52,320 | 20,445 | 14,872 | 9,405 | 8,048 | 4,914 | 1,509 | 111,513 | \$2,819,394,398 |

LOCAL GOVERNMENT DIVISION
FEMALE ACTIVE MEMBERS IN VALUATION DECEMBER 31, 1999
BY ATTAINED AGE AND YEARS OF SERVICE

| Attained Ages | Years of Service to Valuation Date | | | | | | | Total Number | Payroll |
|------------------|------------------------------------|---------------|---------------|---------------|--------------|--------------|------------|-----------------|------------------------|
| | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30+ | | |
| 15-19 | 6,769 | | | | | | | 6,769 | \$26,542,459 |
| 20-24 | 8,832 | 174 | | | | | | 9,006 | 86,193,148 |
| 25-29 | 9,652 | 1,886 | 84 | | | | | 11,622 | 221,297,790 |
| 30-34 | 7,561 | 3,734 | 1,567 | 62 | | | | 12,924 | 289,779,367 |
| 35-39 | 7,586 | 3,689 | 3,101 | 1,313 | 158 | | | 15,847 | 368,553,435 |
| 40-44 | 7,876 | 4,069 | 3,073 | 2,232 | 1,730 | 111 | | 19,091 | 465,251,352 |
| 45-49 | 6,238 | 4,049 | 3,079 | 1,978 | 1,964 | 1,087 | 31 | 18,426 | 473,645,829 |
| 50 | 968 | 740 | 629 | 339 | 331 | 255 | 45 | 3,307 | 87,157,364 |
| 51 | 962 | 703 | 654 | 349 | 329 | 246 | 61 | 3,304 | 86,239,380 |
| 52 | 899 | 687 | 619 | 430 | 357 | 244 | 57 | 3,293 | 85,595,103 |
| 53 | 898 | 724 | 674 | 450 | 358 | 216 | 88 | 3,408 | 86,493,035 |
| 54 | 608 | 449 | 420 | 270 | 227 | 120 | 53 | 2,147 | 55,064,506 |
| 55 | 583 | 439 | 434 | 309 | 221 | 129 | 49 | 2,164 | 53,677,954 |
| 56 | 511 | 392 | 407 | 322 | 266 | 107 | 49 | 2,054 | 50,297,278 |
| 57 | 529 | 459 | 421 | 407 | 278 | 146 | 60 | 2,300 | 56,284,632 |
| 58 | 422 | 392 | 415 | 304 | 252 | 109 | 46 | 1,940 | 48,141,392 |
| 59 | 354 | 324 | 360 | 263 | 248 | 95 | 40 | 1,684 | 40,248,606 |
| 60 | 340 | 305 | 298 | 228 | 221 | 102 | 53 | 1,547 | 37,746,990 |
| 61 | 294 | 250 | 214 | 183 | 163 | 90 | 41 | 1,235 | 28,231,868 |
| 62 | 269 | 211 | 212 | 160 | 149 | 90 | 23 | 1,114 | 25,316,219 |
| 63 | 218 | 172 | 147 | 132 | 97 | 67 | 30 | 863 | 18,421,820 |
| 64 | 165 | 145 | 135 | 99 | 94 | 59 | 34 | 731 | 15,997,398 |
| 65 | 145 | 129 | 113 | 91 | 100 | 45 | 26 | 649 | 13,631,368 |
| 66 | 139 | 84 | 78 | 60 | 53 | 38 | 29 | 481 | 9,564,993 |
| 67 | 124 | 80 | 53 | 45 | 54 | 30 | 11 | 397 | 7,271,184 |
| 68 | 109 | 58 | 58 | 50 | 37 | 25 | 17 | 354 | 6,283,345 |
| 69 | 111 | 58 | 49 | 38 | 34 | 21 | 16 | 327 | 4,905,865 |
| 70 & Over | 554 | 357 | 155 | 118 | 152 | 88 | 84 | 1,508 | 19,144,602 |
| Totals | 63,716 | 24,759 | 17,449 | 10,232 | 7,873 | 3,520 | 943 | 128,492 | \$2,766,978,282 |

Section V
Law Enforcement Division
Benefit Group A



LAW ENFORCEMENT DIVISION BENEFIT GROUP A

This Benefit Group consists of Law Enforcement Members other than Sheriffs, Deputy Sheriffs, and Township Police. Data on active, inactive, retired and money purchase members that was used in the valuation is tabulated briefly below.

Active Members in Valuation December 31, 1999

| Groups | Number | Annual Payroll | Average | | |
|---------------|------------|---------------------|-----------------|-------------|-------------|
| | | | Pay | Age | Service |
| Men | 797 | \$33,776,660 | \$42,380 | 39.4 | 11.6 |
| Women | 92 | 3,667,357 | 39,863 | 38.5 | 9.8 |
| Totals | 889 | \$37,444,017 | \$42,119 | 39.3 | 11.4 |

Also included in the valuation were 0 inactive members eligible for deferred retirement allowances or contribution refunds and 0 members active in the money purchase plan.*

*Retired Members in Valuation December 31, 1999**

| Fund / Type of Allowance | Number | Current Total \$ | Actuarial Liabilities |
|---------------------------|--------|------------------|-----------------------|
| A & PR Fund | | | |
| Superannuation Retirement | 0 | \$0 | \$0 |
| Disability Retirement | 0 | 0 | 0 |
| Money Purchase | 0 | 0 | 0 |
| Total A & PR Fund | 0 | 0 | 0 |
| Total SBF | 0 | 0 | 0 |
| Grand Total | 0 | \$0 | \$0 |

* Law Enforcement inactive members and retired lives who terminated active membership prior to 1/1/2000 are included in Benefit Group B.

**LAW ENFORCEMENT DIVISION BENEFIT GROUP A
EMPLOYER CONTRIBUTIONS TO SUPPORT
RETIREMENT ALLOWANCES
EXPRESSED AS PERCENTS OF ACTIVE MEMBER PAYROLL**

| Contributions for | Contributions Computed December 31 | |
|---|------------------------------------|----------------|
| | 1999 | 1998 |
| Normal Cost | | |
| Age and Service Allowances | 13.60 % | 12.90 % |
| Disability Allowances | 3.34 % | 3.60 % |
| Survivor's Benefits | 0.89 % | 0.87 % |
| Separation Benefits | 2.96 % | 2.11 % |
| Total Normal Cost | 20.79 % | 19.48 % |
| (Member Current Contributions) | 9.00 % | 9.00 % |
| Employer Normal Cost | 11.79 % | 10.48 % |
| Unfunded Actuarial Accrued Liabilities | | |
| Financing Years* | 18 | 5 |
| Total Available Contribution | 0.61 % | 2.02 % |
| Total Employer Contribution Rate | 12.40 % | 12.50 % |

* The period sufficient to produce an Employer Contribution Rate of 12.40% of payroll for retirement allowances and survivor benefits.

LAW ENFORCEMENT DIVISION BENEFIT GROUP A COMPARATIVE STATEMENT

| December 31 | Active Members in Valuation | | | Total Employer Contributions as % of Payroll | | | | | |
|-------------|-----------------------------|----------------|------------------|--|------------------|-------------|----------------|-------------|---------|
| | No. | Annual Payroll | | Normal Cost | Unfunded Accrued | Basic Total | Retiree Health | Grand Total | |
| | | Total | Average Increase | | | | | | |
| | | (Thousands) | | | | | | | |
| 1990 | 5,804 | \$156,339 | \$26,936 | 5.4 % | 9.52 % | 1.29 % | 10.81 % | 5.19 % | 16.00 % |
| 1991@ | 6,088 | 169,008 | 27,761 | 3.1 % | 9.32 % | 1.49 % | 10.81 % | 5.89 % | 16.70 % |
| 1992 | 5,852 | 169,337 | 28,937 | 4.2 % | 9.65 % | 1.16 % | 10.81 % | 5.89 % | 16.70 % |
| 1993 | 6,032 | 182,576 | 30,268 | 4.6 % | 9.53 % | 1.28 % | 10.81 % | 5.89 % | 16.70 % |
| 1994 | 6,252 | 196,467 | 31,425 | 3.8 % | 9.71 % | 1.10 % | 10.81 % | 5.89 % | 16.70 % |
| 1995 | 6,605 | 214,273 | 32,441 | 3.2 % | 9.69 % | 1.12 % | 10.81 % | 5.89 % | 16.70 % |
| 1996@ | 6,742 | 229,138 | 33,987 | 4.8 % | 10.50 % | 0.74 % | 11.24 % | 5.46 % | 16.70 % |
| 1997 | 7,256 | 258,897 | 35,680 | 5.0 % | 10.49 % | 2.01 % | 12.50 % | 4.20 % | 16.70 % |
| 1998 | 7,507 | 277,239 | 36,931 | 3.5 % | 10.48 % | 2.02 % | 12.50 % | 4.20 % | 16.70 % |
| 1999+ | 889 | 37,444 | 42,119 | n/a | 10.74 % | 1.66 % | 12.40 % | 4.30 % | 16.70 % |
| 1999# | 889 | 37,444 | 42,119 | n/a | 11.79 % | 0.61 % | 12.40 % | 4.30 % | 16.70 % |

+ Law group split into groups A and B for 1999 valuation.

After benefit changes.

@ Revised actuarial assumptions.

LAW ENFORCEMENT DIVISION BENEFIT GROUP A
DEVELOPMENT OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES

| Actuarial Present Value December 31, of | (1) Total Actuarial Present Value | Allocation by Entry Age | |
|---|---|---|---|
| | | (2) Portion Covered By Future Normal Cost Contributions | (3) Actuarial Accrued Liabilities (1)-(2) |
| Allowances currently being paid from the Annuity & Pension Reserve Fund | \$ 0 | \$ - | \$ 0 |
| Allowances currently being paid from the Survivors Benefit Fund | - | - | - |
| Age and service allowances based on service rendered before and likely to be rendered after valuation date | 183,328,139 | 51,386,196 | 131,941,943 |
| Disability allowances likely to be paid present active members who become permanently disabled | 32,767,099 | 12,581,517 | 20,185,582 |
| Survivor benefits likely to be paid to spouses and children of present active members who die before retiring | 8,177,235 | 3,307,625 | 4,869,610 |
| Separation benefits (refunds of contributions and deferred allowances) likely to be paid to present active and inactive members | 12,448,404 | 11,190,189 | 1,258,215 |
| Total | \$236,720,877 | \$78,465,527 | \$158,255,350 |
| Actuarial Value of Assets | | | 154,968,005 |
| Unfunded Actuarial Accrued Liability | | | \$ 3,287,345 |

LAW ENFORCEMENT DIVISION BENEFIT GROUP A
DEVELOPMENT OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES
COMPARATIVE STATEMENT
(\$ IN MILLIONS EXCEPT AVERAGES)

| Dec. 31 | Active Payroll | | Active and Inactive Member Accrued Liabilities for Retirement Allowances | | | | Unfunded /Payroll |
|---------|----------------|----------|---|---------------------|----------|-----------------|----------------------|
| | | | Computed Total | Valuation Assets | Unfunded | Amort. Years | |
| | Total | Average | | | | | |
| 1990 | \$ 156 | \$26,936 | \$ 388 | \$ 341 | \$ 47 | 32 | 0.30 |
| 1991@ | 169 | 27,761 | 438 | 399 | 39 | 19 | 0.23 |
| 1992 | 169 | 28,937 | 467 | 452 | 15 | 8 | 0.09 |
| 1993 | 183 | 30,268 | 533 | 512 | 21 | 10 | 0.11 |
| 1994 | 196 | 31,425 | 580 | 555 | 25 | 13 | 0.13 |
| 1995 | 214 | 32,441 | 638 | 612 | 26 | 12 | 0.12 |
| 1996@ | 229 | 33,987 | 711 | 676 | 35 | 30 | 0.15 |
| 1997 | 259 | 35,680 | 821 | 773 | 48 | 10 | 0.19 |
| 1998 | 277 | 36,931 | 914 | 895 | 19 | 5 | 0.07 |
| 1999+ | 37 | 42,119 | 155 | 155 | 0 | 0 | 0.00 |
| 1999# | 37 | 42,119 | 158 | 155 | 3 | 18 | 0.08 |

+ Law group split into groups A and B for 1999 valuation.

After benefit changes.

@ Revised actuarial assumptions.

While no one or two numeric indices can fully describe the financial condition of a retirement plan, the ratio of unfunded actuarial accrued liabilities divided by active member payroll ("UNFUNDED / PAYROLL" above) is significant. Unfunded accrued liabilities represent plan debt, while active member payroll represents the plan's capacity to collect contributions to pay toward debt --- thus the ratio is a relative index of condition. The lower the ratio, the greater the financial strength. And vice-versa.

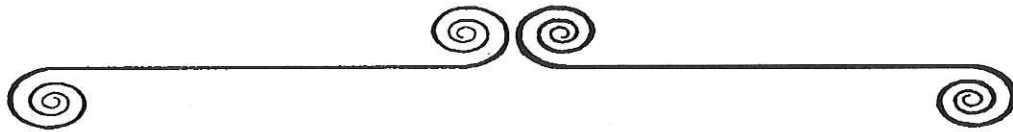
LAW ENFORCEMENT DIVISION BENEFIT GROUP A
MALE ACTIVE MEMBERS IN VALUATION DECEMBER 31, 1999
BY ATTAINED AGE AND YEARS OF SERVICE

| Attained Ages | Years of Service to Valuation Date | | | | | | | Total Number | Payroll |
|------------------|------------------------------------|------------|------------|------------|------------|-----------|-----------|-----------------|---------------------|
| | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30+ | | |
| 20-24 | 14 | | | | | | | 14 | \$375,540 |
| 25-29 | 66 | 27 | | | | | | 93 | 2,992,518 |
| 30-34 | 35 | 44 | 13 | | | | | 92 | 3,379,723 |
| 35-39 | 15 | 22 | 60 | 27 | | | | 124 | 5,070,484 |
| 40-44 | 9 | 15 | 26 | 71 | 56 | | | 177 | 7,923,252 |
| 45-49 | 6 | 5 | 13 | 33 | 66 | 35 | 1 | 159 | 7,600,811 |
| 50 | 1 | 1 | 2 | 2 | 9 | 13 | 2 | 30 | 1,501,883 |
| 51 | 2 | | 1 | 1 | 4 | 12 | 1 | 21 | 945,173 |
| 52 | | | 1 | 2 | 2 | 8 | 1 | 14 | 694,953 |
| 53 | 1 | 2 | 1 | 1 | 5 | 6 | 2 | 18 | 769,112 |
| 54 | | | | | 2 | 3 | | 5 | 235,251 |
| 55 | 1 | | 1 | 1 | 2 | 2 | 2 | 9 | 390,940 |
| 56 | | | 2 | 1 | 2 | 1 | 2 | 8 | 347,821 |
| 57 | | | | | 3 | 2 | 5 | 10 | 492,514 |
| 58 | 1 | | | 1 | 1 | 2 | | 5 | 225,790 |
| 59 | | | | 1 | 2 | 1 | 2 | 6 | 275,212 |
| 60 | | | 1 | 2 | 1 | 2 | | 6 | 318,558 |
| 61 | | | | | 1 | | | 1 | 43,457 |
| 62 | | | | 1 | 1 | | 1 | 3 | 124,649 |
| 63 | | 1 | | | | | | 1 | 26,810 |
| 64 | | | | | | 1 | | 1 | 42,209 |
| Totals | 151 | 117 | 121 | 144 | 157 | 88 | 19 | 797 | \$33,776,660 |

**LAW ENFORCEMENT DIVISION BENEFIT GROUP A
FEMALE ACTIVE MEMBERS IN VALUATION DECEMBER 31, 1999
BY ATTAINED AGE AND YEARS OF SERVICE**

| Attained Ages | Years of Service to Valuation Date | | | | | | | Total Number | Payroll |
|------------------|------------------------------------|-----------|-----------|-----------|-----------|----------|-----|-----------------|--------------------|
| | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30+ | | |
| 20-24 | 1 | | | | | | | 1 | \$24,080 |
| 25-29 | 14 | 1 | | | | | | 15 | 479,397 |
| 30-34 | 3 | 7 | 5 | | | | | 15 | 542,760 |
| 35-39 | 4 | 4 | 4 | 4 | | | | 16 | 599,452 |
| 40-44 | 2 | | 3 | 14 | 3 | | | 22 | 982,464 |
| 45-49 | | | 1 | 3 | 6 | 3 | | 13 | 570,634 |
| 50 | | | 2 | | 2 | | | 4 | 243,912 |
| 52 | | | 2 | | 1 | | | 3 | 100,136 |
| 55 | | | 1 | | | | | 1 | 40,195 |
| 56 | | | | 1 | | | | 1 | 39,839 |
| 67 | | | | | 1 | | | 1 | 44,488 |
| Totals | 24 | 12 | 18 | 22 | 13 | 3 | | 92 | \$3,667,357 |

Section VI
Law Enforcement Division
Benefit Group B



LAW ENFORCEMENT DIVISION BENEFIT GROUP B

This Benefit Group consists of Law Enforcement Members including Sheriffs, Deputy Sheriffs, and Township Police. Data on active, inactive, retired and money purchase members that was used in the valuation is tabulated briefly below.

Active Members in Valuation December 31, 1999

| Groups | Number | Annual Payroll | Average | | |
|---------------|--------------|----------------------|-----------------|-------------|-------------|
| | | | Pay | Age | Service |
| Men | 6,116 | \$234,942,607 | \$38,414 | 39.4 | 11.6 |
| Women | 761 | 26,653,375 | 35,024 | 38.5 | 9.8 |
| Totals | 6,877 | \$261,595,982 | \$38,039 | 39.3 | 11.4 |

Also included in the valuation were 280 inactive members eligible for deferred retirement allowances or contribution refunds and 10 members active in the money purchase plan.

Retired Members in Valuation December 31, 1999

| Fund / Type of Allowance | Number | Current Total \$ | Actuarial Liabilities |
|---------------------------|--------|------------------|-----------------------|
| A & PR Fund | | | |
| Superannuation Retirement | 920 | \$1,569,971 | \$233,590,334 |
| Disability Retirement | 678 | 1,335,317 | 192,447,042 |
| Money Purchase | 0 | 0 | 0 |
| Total A & PR Fund | 1,598 | 2,905,288 | 426,037,376 |
| Total SBF | 249 | 158,279 | 20,656,737 |
| Grand Total | 1,847 | \$3,063,567 | \$446,694,113 |

**LAW ENFORCEMENT DIVISION BENEFIT GROUP B
EMPLOYER CONTRIBUTIONS TO SUPPORT
RETIREMENT ALLOWANCES
EXPRESSED AS PERCENTS OF ACTIVE MEMBER PAYROLL**

| Contributions for | Contributions Computed December 31 | |
|---|------------------------------------|----------------|
| | 1999 | 1998 |
| Normal Cost | | |
| Age and Service Allowances | 14.39 % | 12.90 % |
| Disability Allowances | 3.52 % | 3.60 % |
| Survivor's Benefits | 0.88 % | 0.87 % |
| Separation Benefits | 2.81 % | 2.11 % |
| Total Normal Cost | 21.60 % | 19.48 % |
| (Member Current Contributions) | 10.10 % | 9.00 % |
| Employer Normal Cost | 11.50 % | 10.48 % |
| Unfunded Actuarial Accrued Liabilities | | |
| Financing Years* | 21 | 5 |
| Total | 0.90 % | 2.02 % |
| Total Employer Contribution Rate | 12.40 % | 12.50 % |

* The period sufficient to produce an Employer Contribution Rate of 12.40% of payroll for retirement allowances and survivor benefits.

LAW ENFORCEMENT DIVISION BENEFIT GROUP B COMPARATIVE STATEMENT

| December 31 | Active Members in Valuation | | | Total Employer Contributions as % of Payroll | | | | |
|-------------|-----------------------------|----------------|----------|--|------------------|-------------|----------------|-------------|
| | No. | Annual Payroll | | Normal Cost | Unfunded Accrued | Basic Total | Retiree Health | Grand Total |
| | | Total | Average | | | | | |
| | | (Thousands) | | | | | | |
| 1990 | 5,804 | \$156,339 | \$26,936 | 9.52 % | 1.29 % | 10.81 % | 5.19 % | 16.00 % |
| 1991@ | 6,088 | 169,008 | 27,761 | 9.32 % | 1.49 % | 10.81 % | 5.89 % | 16.70 % |
| 1992 | 5,852 | 169,337 | 28,937 | 9.65 % | 1.16 % | 10.81 % | 5.89 % | 16.70 % |
| 1993 | 6,032 | 182,576 | 30,268 | 9.53 % | 1.28 % | 10.81 % | 5.89 % | 16.70 % |
| 1994 | 6,252 | 196,467 | 31,425 | 9.71 % | 1.10 % | 10.81 % | 5.89 % | 16.70 % |
| 1995 | 6,605 | 214,273 | 32,441 | 9.69 % | 1.12 % | 10.81 % | 5.89 % | 16.70 % |
| 1996@ | 6,742 | 229,138 | 33,987 | 10.50 % | 0.74 % | 11.24 % | 5.46 % | 16.70 % |
| 1997 | 7,256 | 258,897 | 35,680 | 10.49 % | 2.01 % | 12.50 % | 4.20 % | 16.70 % |
| 1998 | 7,507 | 277,239 | 36,931 | 10.48 % | 2.02 % | 12.50 % | 4.20 % | 16.70 % |
| 1999+ | 6,877 | 261,596 | 38,039 | 10.70 % | 1.70 % | 12.40 % | 4.30 % | 16.70 % |
| 1999# | 6,877 | 261,596 | 38,039 | 11.50 % | 0.90 % | 12.40 % | 4.30 % | 16.70 % |

+ Law group split into groups A and B for 1999 valuation.

After benefit changes.

@ Revised actuarial assumptions.

LAW ENFORCEMENT DIVISION BENEFIT GROUP B
DEVELOPMENT OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES

| Actuarial Present Value December 31, of | (1) Total Actuarial Present Value | Allocation by Entry Age | |
|---|---|---|---|
| | | (2) Portion Covered By Future Normal Cost Contributions | (3) Actuarial Accrued Liabilities (1)-(2) |
| Allowances currently being paid from the Annuity & Pension Reserve Fund | \$ 426,037,376 | \$ - | \$ 426,037,376 |
| Allowances currently being paid from the Survivors Benefit Fund | 20,656,737 | - | 20,656,737 |
| Age and service allowances based on service rendered before and likely to be rendered after valuation date | 1,165,941,662 | 402,239,985 | 763,701,677 |
| Disability allowances likely to be paid present active members who become permanently disabled | 202,544,545 | 96,847,982 | 105,696,563 |
| Survivor benefits likely to be paid to spouses and children of present active members who die before retiring | 50,439,022 | 23,517,887 | 26,921,135 |
| Separation benefits (refunds of contributions and deferred allowances) likely to be paid to present active and inactive members | 103,733,980 | 78,472,845 | 25,261,135 |
| Total | \$1,969,353,322 | \$601,078,699 | \$1,368,274,623 |
| Actuarial Value of Assets | | | 1,329,766,616 |
| Unfunded Actuarial Accrued Liability | | | \$ 38,508,007 |

LAW ENFORCEMENT DIVISION BENEFIT GROUP B
DEVELOPMENT OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES
COMPARATIVE STATEMENT
(\$ IN MILLIONS EXCEPT AVERAGES)

| Dec. 31 | Active Payroll | | Active and Inactive Member Accrued Liabilities for Retirement Allowances | | | | Unfunded /Payroll |
|---------|----------------|----------|---|---------------------|----------|-----------------|----------------------|
| | | | Computed Total | Valuation Assets | Unfunded | Amort. Years | |
| | Total | Average | | | | | |
| 1990 | \$ 156 | \$26,936 | \$ 388 | \$ 341 | \$ 47 | 32 | 0.30 |
| 1991@ | 169 | 27,761 | 438 | 399 | 39 | 19 | 0.23 |
| 1992 | 169 | 28,937 | 467 | 452 | 15 | 8 | 0.09 |
| 1993 | 183 | 30,268 | 533 | 512 | 21 | 10 | 0.11 |
| 1994 | 196 | 31,425 | 580 | 555 | 25 | 13 | 0.13 |
| 1995 | 214 | 32,441 | 638 | 612 | 26 | 12 | 0.12 |
| 1996@ | 229 | 33,987 | 711 | 676 | 35 | 30 | 0.15 |
| 1997 | 259 | 35,680 | 821 | 773 | 48 | 10 | 0.19 |
| 1998 | 277 | 36,931 | 914 | 895 | 19 | 5 | 0.07 |
| 1999+ | 262 | 38,039 | 852 | 904 | (52) | 0 | 0.00 |
| 1999# | 262 | 38,039 | 922 | 883 | 39 | 21 | 0.15 |

+ Law group split into groups A and B for 1999 valuation.

After benefit changes.

@ Revised actuarial assumptions.

While no one or two numeric indices can fully describe the financial condition of a retirement plan, the ratio of unfunded actuarial accrued liabilities divided by active member payroll ("UNFUNDED / PAYROLL" above) is significant. Unfunded accrued liabilities represent plan debt, while active member payroll represents the plan's capacity to collect contributions to pay toward debt --- thus the ratio is a relative index of condition. The lower the ratio, the greater the financial strength. And vice-versa.

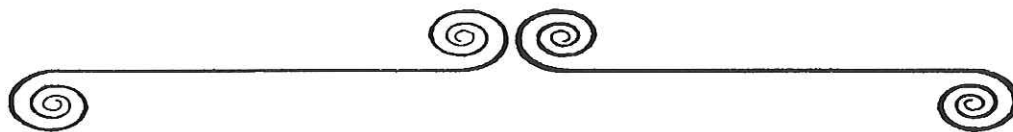
LAW ENFORCEMENT DIVISION BENEFIT GROUP B
MALE ACTIVE MEMBERS IN VALUATION DECEMBER 31, 1999
BY ATTAINED AGE AND YEARS OF SERVICE

| Attained Ages | Years of Service to Valuation Date | | | | | | | Total Number | Payroll |
|------------------|------------------------------------|--------------|--------------|------------|------------|------------|-----------|-----------------|----------------------|
| | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30+ | | |
| 15-19 | 2 | | | | | | | 2 | \$23,073 |
| 20-24 | 151 | 4 | | | | | | 155 | 3,674,053 |
| 25-29 | 632 | 340 | 3 | | | | | 975 | 30,651,673 |
| 30-34 | 356 | 601 | 187 | 1 | | | | 1,145 | 41,437,925 |
| 35-39 | 143 | 311 | 376 | 153 | 4 | | | 987 | 38,446,718 |
| 40-44 | 88 | 137 | 209 | 306 | 158 | 4 | | 902 | 37,336,163 |
| 45-49 | 66 | 92 | 140 | 207 | 297 | 108 | 2 | 912 | 38,730,962 |
| 50 | 4 | 17 | 9 | 30 | 38 | 31 | 4 | 133 | 5,943,904 |
| 51 | 5 | 18 | 16 | 24 | 32 | 49 | 6 | 150 | 6,695,395 |
| 52 | 5 | 12 | 13 | 25 | 22 | 39 | 5 | 121 | 5,470,452 |
| 53 | 7 | 19 | 11 | 28 | 33 | 34 | 8 | 140 | 5,902,436 |
| 54 | 3 | 15 | 11 | 16 | 17 | 14 | 2 | 78 | 3,262,384 |
| 55 | 1 | 4 | 15 | 8 | 14 | 8 | 5 | 55 | 2,321,517 |
| 56 | 1 | 3 | 9 | 14 | 14 | 6 | 6 | 53 | 2,366,223 |
| 57 | 2 | 6 | 7 | 7 | 10 | 10 | 10 | 52 | 2,232,932 |
| 58 | 1 | 5 | 5 | 10 | 11 | 7 | 7 | 46 | 1,892,541 |
| 59 | 3 | 4 | 2 | 4 | 7 | 11 | 6 | 37 | 1,604,009 |
| 60 | 2 | 1 | 5 | 14 | 11 | 6 | 4 | 43 | 1,785,313 |
| 61 | | 2 | 5 | 11 | 7 | 6 | 1 | 32 | 1,417,922 |
| 62 | 1 | 4 | 6 | 4 | 6 | 5 | 5 | 31 | 1,276,653 |
| 63 | 2 | 2 | 2 | 3 | 3 | 1 | 3 | 16 | 653,685 |
| 64 | 6 | | 2 | 1 | 2 | 6 | 1 | 18 | 605,012 |
| 65 | 1 | | 1 | 1 | 2 | | 1 | 6 | 239,157 |
| 66 | | 2 | 1 | 1 | 2 | 1 | 1 | 8 | 301,544 |
| 67 | | 1 | | 2 | 1 | | 2 | 6 | 209,853 |
| 68 | | | 1 | 1 | | | | 2 | 64,453 |
| 69 | 2 | 1 | | 1 | | 1 | | 5 | 175,349 |
| 70 & Over | 1 | 1 | 1 | 1 | | 1 | 1 | 6 | 221,306 |
| Totals | 1,485 | 1,602 | 1,037 | 873 | 691 | 348 | 80 | 6,116 | \$234,942,607 |

LAW ENFORCEMENT DIVISION BENEFIT GROUP B
FEMALE ACTIVE MEMBERS IN VALUATION DECEMBER 31, 1999
BY ATTAINED AGE AND YEARS OF SERVICE

| Attained Ages | Years of Service to Valuation Date | | | | | | | Total Number | Payroll |
|------------------|------------------------------------|------------|------------|-----------|-----------|-----------|----------|-----------------|---------------------|
| | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30+ | | |
| 20-24 | 38 | | | | | | | 38 | \$965,786 |
| 25-29 | 80 | 36 | | | | | | 116 | 3,506,598 |
| 30-34 | 51 | 63 | 19 | 1 | | | | 134 | 4,513,817 |
| 35-39 | 22 | 43 | 60 | 18 | | | | 143 | 5,189,980 |
| 40-44 | 16 | 43 | 31 | 24 | 20 | 1 | | 135 | 5,108,527 |
| 45-49 | 5 | 15 | 23 | 25 | 21 | 2 | | 91 | 3,524,806 |
| 50 | 2 | 3 | 3 | 2 | 4 | 3 | | 17 | 647,506 |
| 51 | 1 | 2 | 4 | 4 | 2 | 1 | | 14 | 543,618 |
| 52 | | 4 | 1 | 2 | 3 | 1 | | 11 | 459,071 |
| 53 | 1 | 1 | 3 | 1 | 4 | 1 | | 11 | 381,005 |
| 54 | 1 | 1 | 3 | 3 | 1 | 1 | | 10 | 389,618 |
| 55 | | | 1 | 4 | 2 | | | 7 | 277,961 |
| 56 | | 1 | 1 | | 4 | | | 6 | 209,303 |
| 57 | | | 1 | 2 | 2 | 1 | | 6 | 161,116 |
| 58 | 1 | | | 1 | 1 | | | 3 | 113,307 |
| 59 | | 2 | 2 | 2 | 2 | | | 8 | 264,768 |
| 60 | | | | | 1 | | | 1 | 35,607 |
| 61 | | 1 | | | | | | 1 | 23,863 |
| 62 | | | | 1 | 1 | | | 2 | 79,246 |
| 63 | | | | | 1 | | | 1 | 37,181 |
| 64 | | | | 1 | | | | 1 | 34,112 |
| 65 | | | | | 1 | | | 1 | 40,274 |
| 66 | | | | | 1 | | | 1 | 30,296 |
| 67 | | | | | | 1 | 1 | 2 | 92,289 |
| 70 & Over | 1 | | | | | | | 1 | 23,720 |
| Totals | 219 | 215 | 152 | 91 | 71 | 12 | 1 | 761 | \$26,653,375 |

Section VII
Allowances Being Paid to Retirees & Beneficiaries



**MONTHLY ALLOWANCES OF RETIRED LIVES
BY YEAR OF RETIREMENT
AS OF DECEMBER 31, 1999**

| Year of Retirement | No. | Initial | Post-Ret. Increase | Total | Average |
|---------------------------|----------------|----------------------|---------------------------|----------------------|----------------|
| 1999 | 6,513 | \$ 8,688,084 | \$ 0 | \$ 8,688,084 | \$1,334 |
| 1998 | 7,372 | 8,857,940 | 174,199 | 9,032,139 | 1,225 |
| 1997 | 7,107 | 8,675,592 | 403,102 | 9,078,694 | 1,277 |
| 1996 | 7,063 | 7,962,867 | 580,926 | 8,543,793 | 1,210 |
| 1995 | 6,463 | 7,097,493 | 653,017 | 7,750,510 | 1,199 |
| 1994 | 5,708 | 5,343,620 | 639,115 | 5,982,735 | 1,048 |
| 1993 | 5,304 | 5,262,823 | 782,876 | 6,045,699 | 1,140 |
| 1992 | 6,015 | 5,666,139 | 1,092,438 | 6,758,577 | 1,124 |
| 1991 | 5,114 | 4,760,794 | 1,095,827 | 5,856,621 | 1,145 |
| 1985-1990 | 31,455 | 23,482,525 | 7,851,962 | 31,334,487 | 996 |
| 1980-1984 | 20,646 | 9,492,656 | 5,617,754 | 15,110,410 | 732 |
| 1975-1979 | 13,213 | 4,264,641 | 3,868,046 | 8,132,687 | 616 |
| 1970-1974 | 5,381 | 1,050,798 | 1,628,891 | 2,679,689 | 498 |
| 1965-1969 | 1,613 | 215,409 | 479,178 | 694,587 | 431 |
| 1960-1964 | 525 | 57,416 | 144,152 | 201,568 | 384 |
| Before 1960 | 164 | 13,970 | 38,797 | 52,767 | 322 |
| TOTAL | 129,656 | \$100,892,767 | \$25,050,280 | \$125,943,047 | \$971 |

The benefit amounts shown above do not include benefits that will become effective in 2000 in connection with House Bill 628.

ANNUITY AND PENSION RESERVE FUND
ANNUAL ALLOWANCE, REPORTED ASSETS AND ACTUARIAL LIABILITIES
COMPARATIVE STATEMENT
(\$ MILLIONS)

| Valuation Date | Annual Allowances | | | Reported Assets* | Actuarial Liabilities | Ratio of Assets to Liabilities | Ratio of Active to Retired |
|----------------|-------------------|-------------|---------------|------------------|-----------------------|--------------------------------|----------------------------|
| | No. | \$ Millions | % of Payroll# | | | | |
| 6/30/72 | 36,314 | \$ 74 | 4.7 % | \$ 769 | \$ 741 | 103.7 % | 5.7 |
| 6/30/73 | 38,940 | 83 | 4.9 % | 871 | 831 | 104.7 % | 5.5 |
| 6/30/74 | 41,453 | 92 | 4.6 % | 984 | 933 | 105.5 % | 6.4 |
| 6/30/75 | 45,197 | 115 | 5.4 % | 1,162 | 1,111 | 104.7 % | 5.2 |
| 6/30/76 | 48,675 | 129 | 5.5 % | 1,294 | 1,253 | 103.2 % | 4.9 |
| 6/30/77 | 52,240 | 150 | 5.6 % | 1,513 | 1,478 | 102.3 % | 5.2 |
| 6/30/78 | 55,827 | 169 | 5.5 % | 1,724 | 1,698 | 101.5 % | 4.9 |
| 6/30/79 | 59,303 | 190 | 5.9 % | 2,007 | 1,973 | 101.7 % | 4.4 |
| 12/31/79 | 60,887 | 207 | 6.4 % | 2,209 | 2,154 | 102.6 % | 4.3 |
| 12/31/80 | 64,231 | 231 | 6.7 % | 2,477 | 2,424 | 102.2 % | 4.0 |
| 12/31/1981@ | 68,089 | 272 | 8.2 % | 3,084 | 2,994 | 103.0 % | 3.7 |
| 12/31/1982@ | 71,253 | 299 | 8.2 % | 3,173 | 3,068 | 103.4 % | 3.5 |
| 12/31/83 | 74,442 | 333 | 8.7 % ** | 3,554 | 3,428 | 103.7 % | 3.3 |
| 12/31/84 | 77,493 | 386 | 9.5 % ** | 3,993 | 3,993 | 100.0 % | 3.2 |
| 12/31/85 | 80,999 | 429 | 10.0 % ** | 4,498 | 4,456 | 100.9 % | 3.1 |
| 12/31/86 | 84,892 | 474 | 10.4 % ** | 4,965 | 4,935 | 100.6 % | 3.0 |
| 12/31/87 | 86,924 | 518 | 10.6 % ** | 5,485 | 5,437 | 100.9 % | 3.0 |
| 12/31/88 | 89,972 | 581 | 10.9 % ** | 6,182 | 6,173 | 100.1 % | 2.9 |
| 12/31/1989@ | 92,504 | 661 | 12.4 % ** | 6,985 | 6,911 | 101.1 % | 2.9 |
| 12/31/90 | 94,088 | 706 | 11.7 % ** | 7,438 | 7,338 | 101.4 % | 3.0 |
| 12/31/91 | 95,843 | 762 | 11.5 % ** | 8,014 | 7,904 | 101.4 % | 3.4 |
| 12/31/92 | 98,609 | 835 | 12.1 % ** | 8,814 | 8,692 | 101.4 % | 3.4 |
| 12/31/93 | 100,651 | 901 | 12.5 % ** | 9,390 | 9,356 | 100.4 % | 3.4 |
| 12/31/94 | 102,587 | 958 | 12.6 % ** | 9,964 | 9,893 | 100.7 % | 3.3 |
| 12/31/95 | 104,806 | 1,036 | 13.0 % ** | 10,808 | 10,737 | 100.7 % | 3.3 |
| 12/31/1996@ | 107,617 | 1,141 | 13.7 % ** | 11,819 | 11,762 | 100.5 % | 3.3 |
| 12/31/97 | 110,470 | 1,233 | 14.3 % ** | 12,843 | 12,755 | 100.7 % | 3.2 |
| 12/13/98 | 113,000 | 1,327 | 14.7 % ** | 13,885 | 13,751 | 101.0 % | 3.1 |
| 12/31/99 | 115,431 | 1,426 | 15.0 % ** | 14,978 | 14,820 | 101.1 % | 3.1 |
| 12/31/1999+ | 115,431 | 1,530 | 16.1 % ** | 14,978 | 16,139 | 92.8 % | 3.1 |

* Including certain recommended transfers and accrued transfers.

Through 1979, June allowances are compared to December payroll.

@ Revised actuarial assumptions.

** Excluding health insurance and Medicare payments which now total 4.9% of active member payroll.

+ Including estimated effect of legislated benefit changes.

**ANNUITY AND PENSION RESERVE FUND
RETIRANTS AND BENEFICIARIES DECEMBER 31, 1999
TYPE OF BENEFIT AND AMOUNT BY SEX OF RECIPIENT**

| Type of Allowance | Men | | Women | | Total | |
|--|---------------|---------------------|---------------|---------------------|----------------|----------------------|
| | Number | Monthly Allowances | Number | Monthly Allowances | Number | Monthly Allowances |
| Superannuation Retirement | | | | | | |
| Plan A - Joint & 50% | 11,985 | \$17,246,674 | 3,332 | \$ 3,579,277 | 15,317 | \$ 20,825,951 |
| Plan B - Straight Life | 15,571 | 18,749,944 | 34,896 | 31,918,852 | 50,467 | 50,668,796 |
| Plan C - Special Joint & Survivor | 2,664 | 4,945,790 | 2,697 | 3,165,683 | 5,361 | 8,111,473 |
| Plan D - Joint & 100% | 12,232 | 15,688,394 | 1,710 | 1,402,411 | 13,942 | 17,090,805 |
| Plan E - Life & 0 to 5 Years Guaranteed | 189 | 211,816 | 162 | 123,676 | 351 | 335,492 |
| - Life & 6 to 10 Years Guaranteed | 350 | 392,219 | 184 | 155,096 | 534 | 547,315 |
| - Life & 11 to 15 Years Guaranteed | 592 | 668,158 | 208 | 162,648 | 800 | 830,806 |
| - Life & 16 to 20 Years Guaranteed | 13 | 24,209 | 5 | 5,626 | 18 | 29,835 |
| Money Purchase | | | | | | |
| Survivor Beneficiary - Life Benefit | 287 | 71,577 | 98 | 13,325 | 385 | 84,902 |
| Survivor Beneficiary - Temporary Benefit | 676 | 333,017 | 12,982 | 8,734,809 | 13,658 | 9,067,826 |
| Total Superannuation | 44,590 | \$58,373,473 | 56,394 | \$49,378,299 | 100,984 | \$ 107,751,772 |
| Disability Retirement | 7,816 | \$ 11,863,706 | 6,631 | \$ 7,905,015 | 14,447 | \$ 19,768,721 |
| Total from A & PR | 52,406 | \$70,237,179 | 63,025 | \$57,283,314 | 115,431 | \$127,520,493 |

The benefit amounts shown on this page include the estimated effect of ad-hoc benefit adjustments related to House Bill 628.

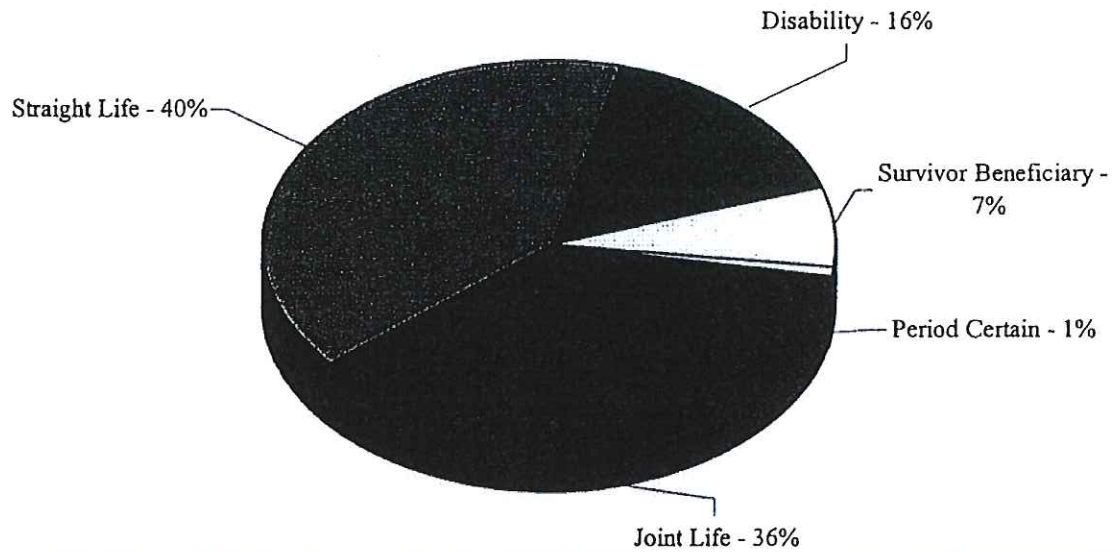
**ANNUITY AND PENSION RESERVE FUND
RETIRANTS AND BENEFICIARIES DECEMBER 31, 1999
TYPE OF BENEFIT AND AMOUNT BY SEX OF RECIPIENT**

| Type of Allowance | Men | | Women | | Total | |
|--|---------------|---------------------|---------------|---------------------|----------------|----------------------|
| | Number | Monthly Allowances | Number | Monthly Allowances | Number | Monthly Allowances |
| Superannuation Retirement | | | | | | |
| Plan A - Joint & 50% | 11,985 | \$17,246,674 | 3,332 | \$ 3,579,277 | 15,317 | \$ 20,825,951 |
| Plan B - Straight Life | 15,571 | 18,749,944 | 34,896 | 31,918,852 | 50,467 | 50,668,796 |
| Plan C - Special Joint & Survivor | 2,664 | 4,945,790 | 2,697 | 3,165,683 | 5,361 | 8,111,473 |
| Plan D - Joint & 100% | 12,232 | 15,688,394 | 1,710 | 1,402,411 | 13,942 | 17,090,805 |
| Plan E - Life & 0 to 5 Years Guaranteed | 189 | 211,816 | 162 | 123,676 | 351 | 335,492 |
| - Life & 6 to 10 Years Guaranteed | 350 | 392,219 | 184 | 155,096 | 534 | 547,315 |
| - Life & 11 to 15 Years Guaranteed | 592 | 668,158 | 208 | 162,648 | 800 | 830,806 |
| - Life & 16 to 20 Years Guaranteed | 13 | 24,209 | 5 | 5,626 | 18 | 29,835 |
| Money Purchase | | | | | | |
| Survivor Beneficiary - Life Benefit | 287 | 71,577 | 98 | 13,325 | 385 | 84,902 |
| Survivor Beneficiary - Temporary Benefit | 676 | 333,017 | 12,982 | 8,734,809 | 13,658 | 9,067,826 |
| Total Superannuation | 44,590 | \$58,373,473 | 56,394 | \$49,378,299 | 100,984 | \$ 107,751,772 |
| Disability Retirement | 7,816 | \$ 11,863,706 | 6,631 | \$ 7,905,015 | 14,447 | \$ 19,768,721 |
| Total from A & PR | 52,406 | \$70,237,179 | 63,025 | \$57,283,314 | 115,431 | \$127,520,493 |

The benefit amounts shown on this page include the estimated effect of ad-hoc benefit adjustments related to House Bill 628.

ANNUITIES BEING PAID BY TYPE
DECEMBER 31, 1999

Annuity and Pension Reserve Fund

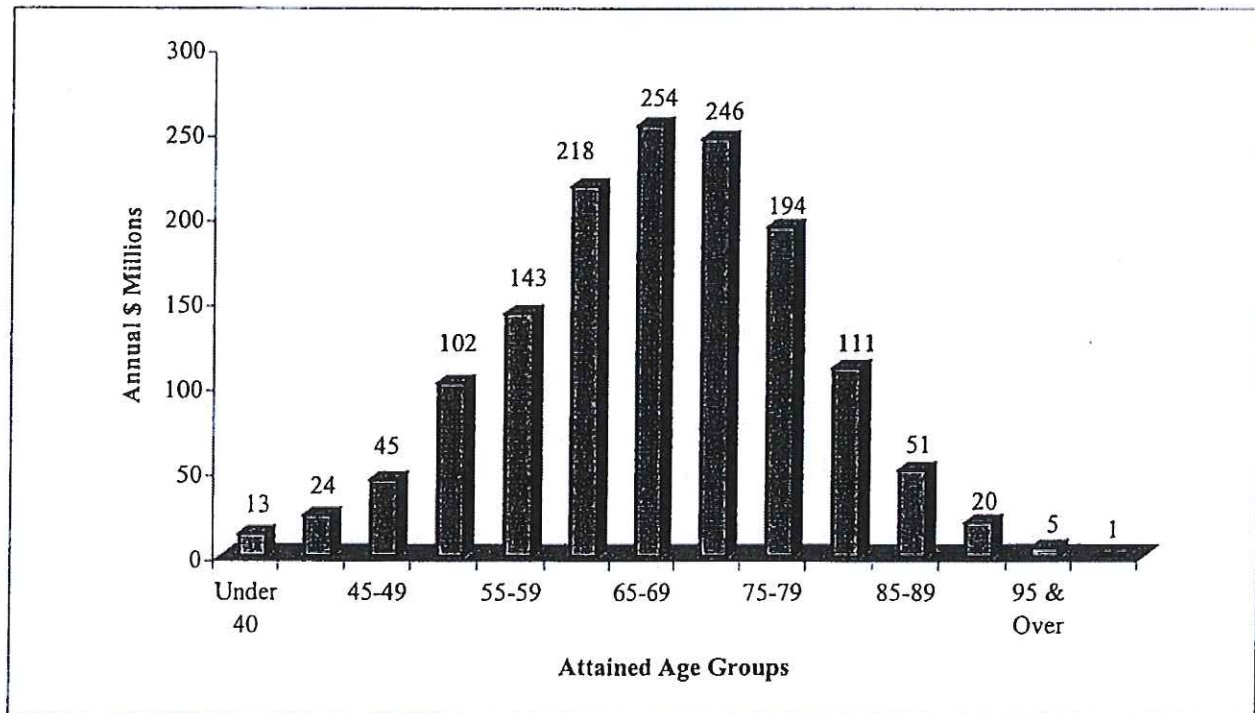
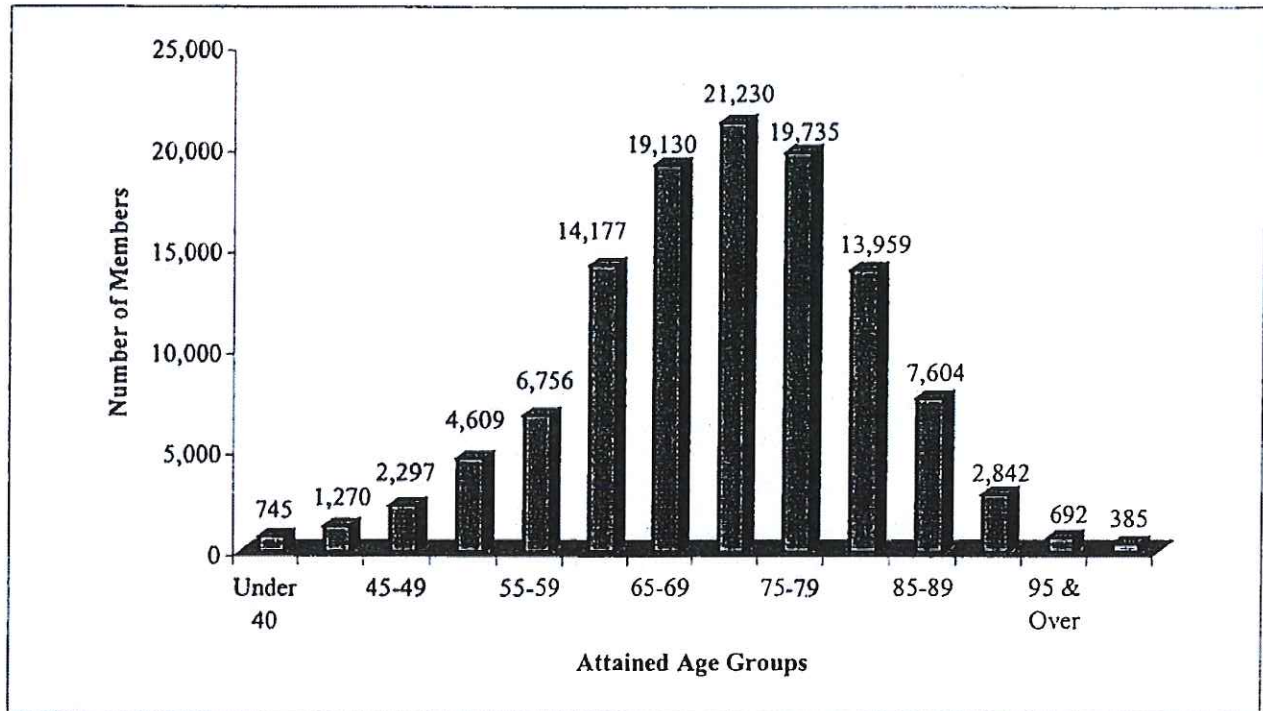


ANNUITY AND PENSION RESERVE FUND
RETIRANTS AND BENEFICIARIES DECEMBER 31, 1999
CURRENT MONTHLY TOTAL \$ BY ATTAINED AGES

| Attained Ages | Superannuation | | Disability | | Totals | |
|-------------------|----------------|----------------------|---------------|---------------------|----------------|----------------------|
| | No. | Monthly Total \$ | No. | Monthly Total \$ | No. | Monthly Total \$ |
| Under 20 | 14 | \$ 7,089 | | | 14 | \$ 7,089 |
| 20-24 | 5 | 4,180 | | | 5 | 4,180 |
| 25-29 | 8 | 3,068 | 16 | \$ 21,242 | 24 | 24,310 |
| 30-34 | 17 | 6,562 | 132 | 203,805 | 149 | 210,367 |
| 35-39 | 34 | 15,705 | 519 | 845,963 | 553 | 861,668 |
| 40-44 | 62 | 50,802 | 1,208 | 1,981,332 | 1,270 | 2,032,134 |
| 45-49 | 349 | 615,335 | 1,948 | 3,105,535 | 2,297 | 3,720,870 |
| 50-54 | 2,257 | 4,882,776 | 2,352 | 3,605,773 | 4,609 | 8,488,549 |
| 55-59 | 4,253 | 8,700,745 | 2,503 | 3,243,176 | 6,756 | 11,943,921 |
| 60-64 | 11,893 | 15,526,451 | 2,284 | 2,606,788 | 14,177 | 18,133,239 |
| 65-69 | 17,690 | 19,744,231 | 1,440 | 1,432,832 | 19,130 | 21,177,063 |
| 70-74 | 20,175 | 19,643,875 | 1,055 | 862,389 | 21,230 | 20,506,264 |
| 75-79 | 19,102 | 15,694,174 | 633 | 468,405 | 19,735 | 16,162,579 |
| 80-84 | 13,690 | 9,072,025 | 269 | 150,027 | 13,959 | 9,222,052 |
| 85-89 | 7,535 | 4,230,999 | 69 | 32,105 | 7,604 | 4,263,104 |
| 90-94 | 2,824 | 1,625,804 | 18 | 6,434 | 2,842 | 1,632,238 |
| 95 & Over | 691 | 375,126 | 1 | 521 | 692 | 375,647 |
| Period Certain | 385 | 81,657 | | | 385 | 81,657 |
| Totals | 100,984 | \$100,280,602 | 24,417 | \$18,566,327 | 115,401 | \$118,846,929 |

The figures on this page do not include benefit changes related to House Bill 628.

**ANNUITY AND PENSION RESERVE FUND
BENEFITS BEING PAID BY ATTAINED AGES
DECEMBER 31, 1999**



ANNUITY AND PENSION RESERVE FUND
PERCENT OF RECIPIENTS
BY AGE GROUPS
AND YEAR

| Attained Age Group | 1999 | 1998 | 1997 | 1996 | 1995 | 1994 | 1993 | 1992 | 1991 | 1990 |
|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Under 30 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 30-39 | 0.6% | 0.6% | 0.6% | 0.6% | 0.5% | 0.5% | 0.5% | 0.5% | 0.5% | 0.5% |
| 40-49 | 3.1% | 2.9% | 2.8% | 2.7% | 2.4% | 2.1% | 2.0% | 1.9% | 1.7% | 1.5% |
| 50-59 | 9.8% | 9.2% | 8.6% | 7.9% | 7.6% | 7.2% | 7.1% | 6.9% | 6.6% | 6.5% |
| 60-69 | 28.9% | 29.1% | 29.4% | 29.9% | 30.5% | 30.9% | 32.0% | 32.8% | 33.2% | 34.4% |
| 70-79 | 35.5% | 36.3% | 37.1% | 37.7% | 38.2% | 38.6% | 38.3% | 38.5% | 38.8% | 38.5% |
| 80-89 | 18.7% | 18.6% | 18.4% | 18.2% | 17.9% | 17.8% | 17.4% | 16.8% | 16.6% | 16.1% |
| 90 & Over | 3.1% | 3.0% | 2.9% | 2.8% | 2.7% | 2.7% | 2.5% | 2.4% | 2.3% | 2.2% |
| Period Certain | 0.3% | 0.3% | 0.2% | 0.2% | 0.2% | 0.2% | 0.2% | 0.2% | 0.3% | 0.3% |
| TOTALS | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Average Age | 71.4 | 71.5 | 71.6 | 71.6 | 71.8 | 71.4 | 71.8 | 71.7 | 71.7 | 71.6 |

This page illustrates the gradual aging of the retiree population. The percentage of recipients over 80 years old is now 21.8% compared with 21.6% last year.

STATE DIVISION
SURVIVOR BENEFIT FUND TABULATED BY
TYPE OF BENEFIT BEING PAID AND MONTHLY AMOUNT
DECEMBER 31, 1999

| Group | Number | Current Total | Actuarial Liabilities |
|--|--------|---------------|-----------------------|
| S-1 - Survivor Benefit to Beneficiary of Deceased Member Joint and Survivor Computation | | | |
| Men | 95 | \$ 70,853 | \$ 7,497,317 |
| Women | 922 | 904,565 | 105,298,351 |
| Totals | 1,017 | \$975,418 | \$112,795,668 |
| S-2 - Survivor Benefit to Beneficiary of Deceased Member Fixed Rate Amount | | | |
| Widower - no child | 333 | \$162,649 | \$ 19,002,583 |
| Widower - child | 59 | 32,966 | 5,651,648 |
| Child's record | 85 | 31,342 | 1,191,247 |
| Parent | 2 | 1,695 | 142,705 |
| Other | 1 | 1,122 | 241,066 |
| Subtotals - male | 480 | 229,774 | 26,229,249 |
| Widower - no child | 2,113 | \$1,105,013 | \$131,365,977 |
| Widower - child | 241 | 152,845 | 29,426,513 |
| Child's record | 338 | 152,122 | 8,218,745 |
| Parent | 3 | 1,500 | 196,225 |
| Other | 0 | 0 | 0 |
| Subtotals - female | 2,695 | 1,411,480 | 169,207,460 |
| Child only | 190 | 103,254 | 5,606,238 |
| Totals | 3,365 | \$1,744,508 | \$201,042,947 |
| Total Benefits Being Paid from Survivor Benefit Fund | | | |
| Men | 575 | 300,627 | 33,726,566 |
| Women | 3,617 | 2,316,045 | 274,505,811 |
| Children | 190 | 103,254 | 5,606,238 |
| Totals | 4,382 | \$2,719,926 | \$313,838,615 |

The figures on this page include an estimate of the effect of House Bill 628.

**LOCAL GOVERNMENT DIVISION
SURVIVOR BENEFIT FUND TABULATED BY
TYPE OF BENEFIT BEING PAID AND MONTHLY AMOUNT
DECEMBER 31, 1999**

| Group | Number | Current Total | Actuarial Liabilities |
|--|--------|---------------|-----------------------|
| S-1 - Survivor Benefit to Beneficiary of Deceased Member Joint and Survivor Computation | | | |
| Men | 130 | \$ 84,031 | \$ 8,429,548 |
| Women | 1,644 | 1,333,992 | 157,735,617 |
| Totals | 1,774 | \$1,418,023 | \$166,165,165 |
| S-2 - Survivor Benefit to Beneficiary of Deceased Member Fixed Rate Amount | | | |
| Widower - no child | 567 | \$ 236,123 | \$ 26,852,253 |
| Widower - child | 87 | 36,931 | 6,217,263 |
| Child's record | 117 | 32,841 | 1,555,156 |
| Other | 0 | 0 | 0 |
| Subtotals - male | 771 | 305,895 | 34,624,672 |
| Widower - no child | 4,467 | \$2,011,049 | \$241,126,280 |
| Widower - child | 518 | 278,395 | 53,124,068 |
| Child's record | 764 | 304,530 | 18,461,235 |
| Parent | 3 | 1,611 | 141,831 |
| Subtotals - female | 5,752 | 2,595,585 | 312,853,414 |
| Child only | 336 | 162,717 | 9,243,899 |
| Totals | 6,859 | \$3,064,197 | \$356,721,985 |
| Total Benefits Being Paid from Survivor Benefit Fund | | | |
| Men | 901 | 389,926 | 43,054,220 |
| Women | 7,396 | 3,929,577 | 470,589,031 |
| Children | 336 | 162,717 | 9,243,899 |
| Totals | 8,633 | \$4,482,220 | \$522,887,150 |

The figures on this page include an estimate of the effect of House Bill 628.

LAW ENFORCEMENT GROUP B DIVISION
SURVIVOR BENEFIT FUND TABULATED BY
TYPE OF BENEFIT BEING PAID AND MONTHLY AMOUNT
DECEMBER 31, 1999

| Group | Number | Current Total | Actuarial Liabilities |
|--|--------|---------------|-----------------------|
| S-1 - Survivor Benefit to Beneficiary of Deceased Member Joint and Survivor Computation | | | |
| Men | 0 | \$ 0 | \$ 0 |
| Women | 40 | 49,723 | 7,253,492 |
| Totals | 40 | \$ 49,723 | \$7,253,492 |
| S-2 - Survivor Benefit to Beneficiary of Deceased Member Fixed Rate Amount | | | |
| Widower - no child | 0 | \$ 0 | \$ 0 |
| Widower - child | 2 | 1,434 | 260,316 |
| Child's record | 3 | 1,380 | 111,198 |
| Other | 0 | 0 | 0 |
| Subtotals - male | 5 | 2,814 | 371,514 |
| Widower - no child | 73 | \$ 41,488 | \$ 6,345,137 |
| Widower - child | 32 | 19,544 | 3,861,529 |
| Child's record | 54 | 20,681 | 1,037,201 |
| Other | 1 | 612 | 69,295 |
| Subtotals - female | 160 | 82,325 | 11,313,162 |
| Child only | 16 | 8,732 | 368,578 |
| Totals | 181 | \$ 93,871 | \$12,053,254 |
| Total Benefits Being Paid from Survivor Benefit Fund | | | |
| Men | 5 | 2,814 | 371,514 |
| Women | 200 | 132,048 | 18,566,654 |
| Children | 16 | 8,732 | 368,578 |
| Totals | 221 | \$143,594 | \$19,306,746 |

The figures on this page include an estimate of the effect of House Bill 628.

**STATE DIVISION
DEFERRED SURVIVOR BENEFICIARIES
TABULATED BY SEX AND DEFERRED AGE
DECEMBER 31, 1999**

| Group | Number | Current Total | Actuarial Liabilities |
|--------------------|------------|------------------|-----------------------|
| Widowers | | | |
| Deferred to age 50 | 13 | \$ 9,489 | \$ 1,049,678 |
| Deferred to age 62 | 65 | 36,207 | 2,479,765 |
| Deferred to age 65 | 7 | 1,461 | 97,471 |
| Total | 85 | 47,157 | 3,626,914 |
| Widows | | | |
| Deferred to age 50 | 43 | 35,877 | 5,002,984 |
| Deferred to age 62 | 168 | 99,802 | 9,410,047 |
| Deferred to age 65 | 1 | 167 | 18,426 |
| Total | 212 | 135,846 | 14,431,457 |
| Totals | 297 | \$183,003 | \$18,058,371 |

The figures on this page include an estimate of the effect of House Bill 628.

**LOCAL GOVERNMENT DIVISION
DEFERRED SURVIVOR BENEFICIARIES
TABULATED BY SEX AND DEFERRED AGE
DECEMBER 31, 1999**

| Group | Number | Current Total | Actuarial Liabilities |
|--------------------|------------|------------------|-----------------------|
| Widowers | | | |
| Deferred to age 50 | 12 | \$ 8,842 | \$ 795,929 |
| Deferred to age 62 | 99 | 39,147 | 2,867,776 |
| Deferred to age 65 | 9 | 1,611 | 162,556 |
| Total | 120 | 49,600 | 3,826,261 |
| Widows | | | |
| Deferred to age 50 | 83 | 68,845 | 9,808,987 |
| Deferred to age 62 | 458 | 233,390 | 21,753,938 |
| Deferred to age 65 | 3 | 630 | 66,868 |
| Total | 544 | 302,865 | 31,629,793 |
| Totals | 664 | \$352,465 | \$35,456,054 |

The figures on this page include an estimate of the effect of House Bill 628.

LAW ENFORCEMENT DIVISION BENEFIT GROUP B
DEFERRED SURVIVOR BENEFICIARIES
TABULATED BY SEX AND DEFERRED AGE
DECEMBER 31, 1999

| Group | Number | Current Total | Actuarial Liabilities |
|--------------------|-----------|-----------------|-----------------------|
| Widowers | | | |
| Deferred to age 50 | 1 | \$ 106 | \$ 5,364 |
| Total | 1 | 106 | 5,364 |
| Widows | | | |
| Deferred to age 50 | 4 | 2,781 | 353,570 |
| Deferred to age 62 | 23 | 11,798 | 991,059 |
| Total | 27 | 14,579 | 1,344,629 |
| Totals | 28 | \$14,685 | \$1,349,993 |

The figures on this page include an estimate of the effect of House Bill 628.

SURVIVOR BENEFIT FUND
REPORTED ASSETS AND LIABILITIES
DIVISIONS COMBINED

| Valuation Date | Monthly Allowances | | | | \$ Millions | | Ratio of Assets to Liabilities |
|-------------------|--------------------|------------|----------|-----------|--------------------|--------------------------|--------------------------------------|
| | Current | | Deferred | | Reported Assets | Actuarial Liabilities | |
| | No. | Amount | No. | Amount | | | |
| 6/30/72 | 6,102 | \$ 891,467 | 1,012 | \$ 96,003 | \$ 144.7 | \$ 127.0 | 114 % |
| 6/30/73 | 6,477 | 1,053,363 | 1,009 | 99,678 | 164.6 | 146.3 | 113 % |
| 6/30/74 | 6,826 | 1,136,949 | 1,037 | 106,479 | 181.7 | 157.5 | 115 % |
| 6/30/75 | 7,346 | 1,422,944 | 1,054 | 113,690 | 205.3 | 177.9 | 115 % |
| 6/30/76 | 7,847 | 1,557,217 | 991 | 118,986 | 224.8 | 189.4 | 119 % |
| 6/30/77 | 8,153 | 1,659,897 | 1,003 | 125,094 | 257.0 | 204.6 | 126 % |
| 6/30/78 | 8,559 | 1,799,580 | 1,004 | 135,944 | 301.2 | 224.5 | 134 % |
| 6/30/79 | 8,824 | 1,914,251 | 1,039 | 146,549 | 355.2 | 245.1 | 145 % |
| 12/31/79 | 8,971 | 2,033,403 | 1,044 | 155,890 | 383.0 | 259.5 | 148 % |
| 12/31/80 | 9,389 | 2,220,641 | 1,022 | 170,246 | 429.4 | 285.4 | 150 % |
| 12/31/1981@ | 9,629 | 2,468,950 | 1,045 | 191,228 | 460.6 | 336.0 | 137 % |
| 12/31/1982@ | 9,913 | 2,654,686 | 1,006 | 199,239 | 499.7 | 330.6 | 151 % |
| 12/31/83 | 10,132 | 2,812,639 | 1,020 | 225,475 | 454.7 | 352.8 | 129 % |
| 12/31/1984* | 11,819 | 3,119,531 | 990 | 248,373 | 492.2 | 451.1 | 109 % |
| 12/31/85 | 11,889 | 3,278,253 | 979 | 259,842 | 532.8 | 469.6 | 113 % |
| 12/31/86 | 12,054 | 3,489,915 | 960 | 268,931 | 575.5 | 451.2 | 128 % |
| 12/31/87 | 12,153 | 3,656,420 | 933 | 279,327 | 626.1 | 472.9 | 132 % |
| 12/31/88 | 12,237 | 3,822,085 | 941 | 283,026 | 490.8 | 490.8 | 100 % |
| 12/31/1989@ | 12,198 | 4,177,540 | 941 | 320,792 | 525.3 | 522.1 | 101 % |
| 12/31/90 | 12,182 | 4,330,622 | 907 | 321,218 | 542.5 | 537.1 | 101 % |
| 12/31/91 | 12,268 | 4,528,326 | 860 | 314,414 | 567.9 | 557.1 | 102 % |
| 12/31/92 | 12,318 | 4,750,848 | 852 | 329,509 | 589.8 | 583.3 | 101 % |
| 12/31/93 | 12,437 | 4,985,681 | 862 | 345,937 | 620.7 | 607.7 | 102 % |
| 12/31/94 | 12,569 | 5,207,186 | 845 | 347,178 | 641.5 | 628.5 | 102 % |
| 12/31/95 | 12,608 | 5,408,577 | 866 | 376,573 | 668.9 | 652.4 | 103 % |
| 12/31/1996@ | 12,724 | 5,822,113 | 878 | 395,594 | 711.6 | 710.6 | 100 % |
| 12/31/97 | 12,856 | 6,074,566 | 932 | 433,430 | 743.0 | 740.5 | 100 % |
| 12/13/98 | 13,079 | 6,337,739 | 1,060 | 500,514 | 780.2 | 779.6 | 100 % |
| 12/31/1999+ | 13,236 | 6,609,854 | 989 | 486,262 | 801.4 | 803.9 | 100 % |
| 12/31/1999# | 13,236 | 7,345,740 | 989 | 550,153 | 801.4 | 910.9 | 88 % |

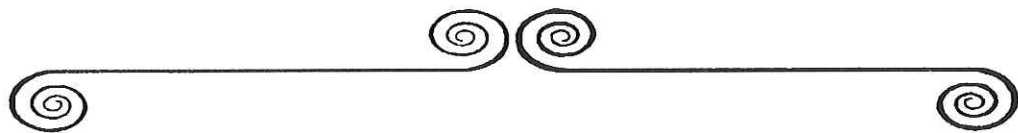
@ Revised actuarial assumptions.

* Benefits increased.

After benefit changes.

+ Reported asset amounts include accrued transfers.

Section VIII
Actuarial Methods and Assumptions



**SUMMARY OF
ACTUARIAL METHODS AND ASSUMPTIONS USED FOR PERS
ACTUARIAL VALUATIONS
ASSUMPTIONS ADOPTED BY RETIREMENT BOARD
After Consulting With Actuary**

The entry age actuarial cost method of valuation was used in determining liabilities and normal cost.

Differences in the past between assumed experience and actual experience ("actuarial gains and losses") become part of actuarial accrued liabilities.

Unfunded actuarial accrued liabilities are amortized to produce payments (principal & interest) which are level percent of payroll contributions.

The actuarial assumptions used in the valuation are shown in this Section. Both the economic and decrement assumptions were established following the December 31, 1995 actuarial valuations.

ECONOMIC ASSUMPTIONS

The investment return rate used in making the valuations was 7.75% per year, compounded annually (net after administrative expenses). The assumed real rate of return is the portion of total investment return that is more than the assumed total wage growth rate. Considering other financial assumptions, the 7.75% investment return rate translates to an assumed real rate of return of 3.00%.

Pay increase assumptions for individual active members are shown for sample ages on pages VIII-4, VIII-5, & VIII-6. Part of the assumption for each age is for merit and/or seniority increase, and the other 4.75% recognizes wage inflation and overall productivity increases. There is no specific assumption regarding price inflation.

The active member payroll is assumed to increase 4.75% annually, which is the portion of the individual pay increase assumptions attributable to wage inflation and overall productivity increases.

The number of active members is assumed to continue at the present number.

NON-ECONOMIC ASSUMPTIONS

The post-retirement mortality rates used in evaluating age and service survivor benefit allowances to be paid were 90% of rates in the 1971 Group Annuity Mortality Male and Female Tables, projected to

1984. Related values are shown on page VIII-7. The mortality rates for disability allowances were the same as those for age and service retirees 10 years older.

The probabilities of normal and early age and service retirement are shown on page V-3.

The probabilities of withdrawal from service, disability and death-in-service are shown for sample ages on pages VIII-4, VIII-5 & VIII-6. For withdrawal from service it was assumed that members terminating before age 35, members terminating with less than 5 years of service, and a percentage of all other members would withdraw their contributions and forfeit their entitlement to an employer financed benefit. The percentage is 100% at age 35 and is reduced for each year of age after 35, becoming 0% at age 55 (age 45 for law enforcement members).

Decrements are assumed to occur middle of year. *Pay increases* are assumed to occur beginning of year.

The probabilities of having an eligible survivor (spouse, child, parent) in the event of death in service were 80% for state and local government members and 90% for law enforcement members.

Female spouses are assumed to be 3 years younger than male spouses for active member valuation purposes.

Adjustment factors used for valuation purposes include the following:

- a 2% factor is applied to normal retirement, early retirement and vesting liabilities to recognize subsidized option factors,
- a 1% factor is applied to normal retirement and early retirement liabilities to recognize subsidized service purchases,
- Law Enforcement accrued liabilities are reduced approximately 1.5% to recognize the fact that total service reported is not entirely Law Enforcement service,
- reported accumulated contributions (which exclude credited interest) are adjusted for interest crediting using factors based upon historical crediting interest rates and assumed pay increases.

Employer contributions were assumed to be *paid in equal installments* throughout the employer fiscal year.

The Funding Value of Assets recognize assumed investment return fully each year. Differences between actual and assumed investment return are phased in over a closed 4 year period.

Present assets (cash & investments) at funding value are shown on pages 8 and 9.

The actuarial valuation computations were made by or under the supervision of a Member of the American Academy of Actuaries (M.A.A.A.)

Probabilities of Normal Age and Service Retirement

| Ages | Percent of Eligible Active Members Retiring Within Next Year | | | | |
|-------|---|-------|------------------|-------|-------------|
| | State | | Local Government | | Law * |
| | Men | Women | Men | Women | Enforcement |
| 50-54 | 15% | 20% | 23% | 20% | 25% |
| 55-58 | 15% | 20% | 23% | 20% | 20% |
| 59 | 18% | 21% | 20% | 20% | 20% |
| 60 | 20% | 22% | 25% | 25% | 15% |
| 61 | 21% | 25% | 25% | 28% | 15% |
| 62 | 22% | 30% | 27% | 30% | 15% |
| 63 | 25% | 30% | 28% | 30% | 15% |
| 64 | 25% | 30% | 30% | 30% | 15% |
| 65 | 25% | 25% | 25% | 25% | 30% |
| 66 | 25% | 20% | 25% | 25% | 30% |
| 67 | 25% | 20% | 20% | 20% | 25% |
| 68 | 25% | 20% | 20% | 20% | 25% |
| 69-79 | 25% | 20% | 20% | 20% | 30% |
| 80 | 100% | 100% | 100% | 100% | 100% |
| Ref | 505 | 506 | 507 | 508 | 511 |

* For Law Benefit Group B, the rates from 48 to 50 are 25%, and the rates for 68 and up are 100%

Probabilities of Early Retirement

| Ages | Percent of Eligible Active Members Retiring Within Next Year | | | | |
|------|---|-------|------------------|-------|-------------|
| | State | | Local Government | | Law |
| | Men | Women | Men | Women | Enforcement |
| 48 | | | | | 3% |
| 49 | | | | | 3% |
| 50 | | | | | 7% |
| 51 | | | | | 7% |
| 55 | 15% | 18% | 10% | 12% | |
| 56 | 15% | 18% | 10% | 12% | |
| 57 | 15% | 18% | 10% | 12% | |
| 58 | 15% | 18% | 10% | 12% | |
| 59 | 15% | 18% | 10% | 12% | |
| 60 | 12% | 15% | 12% | 13% | |
| 61 | 12% | 15% | 12% | 13% | |
| 62 | 12% | 15% | 15% | 13% | |
| 63 | 15% | 15% | 15% | 13% | |
| 64 | 18% | 18% | 15% | 13% | |
| Ref | 503 | 504 | 509 | 510 | 515 |

STATE
SEPARATIONS FROM ACTIVE EMPLOYMENT BEFORE AGE & SERVICE RETIREMENT
& INDIVIDUAL PAY INCREASE ASSUMPTIONS

| Sample Ages | Years of Service | Percent of Active Members Separating Within the Next Year | | | | | | Pay Increase Assumptions For An Individual Employee | | |
|----------------|---------------------|--|-------|------------|--------|------------|-------|--|-------------------|-----------------------|
| | | Death | | Withdrawal | | Disability | | Merit & Seniority | Base (Economy) | Increase Next Year |
| | | Men | Women | Men | Women | Men | Women | | | |
| | 0 | | | 39.00% | 35.00% | | | | | |
| | 1 | | | 17.00% | 17.00% | | | | | |
| | 2 | | | 13.00% | 14.00% | | | | | |
| | 3 | | | 9.00% | 10.00% | | | | | |
| | 4 | | | 6.50% | 8.00% | | | | | |
| | 5 & Over | | | | | | | | | |
| 25 | | 0.04% | 0.02% | 6.20% | 7.30% | 0.07% | 0.06% | 3.86% | 4.75% | 8.61% |
| 30 | | 0.05% | 0.03% | 5.16% | 6.66% | 0.08% | 0.06% | 2.62% | 4.75% | 7.37% |
| 35 | | 0.07% | 0.04% | 4.18% | 5.20% | 0.16% | 0.11% | 2.06% | 4.75% | 6.81% |
| 40 | | 0.11% | 0.06% | 3.36% | 4.00% | 0.27% | 0.21% | 1.66% | 4.75% | 6.41% |
| 45 | | 0.19% | 0.08% | 2.64% | 3.36% | 0.46% | 0.37% | 1.20% | 4.75% | 5.95% |
| 50 | | 0.34% | 0.13% | 2.28% | 2.90% | 0.75% | 0.69% | 0.88% | 4.75% | 5.63% |
| 55 | | 0.55% | 0.19% | 2.08% | 2.52% | 1.26% | 0.94% | 0.68% | 4.75% | 5.43% |
| 60 | | 0.84% | 0.32% | 0.60% | 0.70% | 2.06% | 1.50% | 0.54% | 4.75% | 5.29% |
| Ref | | 0.7 | * 68 | 0.7 | * 69 | 183 | 184 | 191 | 120 | 148 |
| | | | | 324 | 325 | | | | | |

The pay increase assumptions are age based only, and not service based.

**LOCAL GOVERNMENT
SEPARATIONS FROM ACTIVE EMPLOYMENT BEFORE AGE & SERVICE RETIREMENT
& INDIVIDUAL PAY INCREASE ASSUMPTIONS**

| Sample Ages | Years of Service | Percent of Active Members Separating Within the Next Year | | | | | | Pay Increase Assumptions For An Individual Employee | | |
|----------------|---------------------|--|-------|------------|--------|------------|-------|--|-------------------|-----------------------|
| | | Death | | Withdrawal | | Disability | | Merit & Seniority | Base (Economy) | Increase Next Year |
| | | Men | Women | Men | Women | Men | Women | | | |
| | 0 | | | 36.00% | 34.50% | | | | | |
| | 1 | | | 17.00% | 18.00% | | | | | |
| | 2 | | | 13.00% | 14.00% | | | | | |
| | 3 | | | 10.00% | 11.00% | | | | | |
| | 4 | | | 8.00% | 9.00% | | | | | |
| | 5 & Over | | | | | | | | | |
| 25 | | 0.04% | 0.02% | 6.80% | 8.40% | 0.07% | 0.06% | 3.80% | 4.75% | 8.55% |
| 30 | | 0.05% | 0.03% | 5.40% | 7.28% | 0.11% | 0.09% | 2.40% | 4.75% | 7.15% |
| 35 | | 0.07% | 0.04% | 4.40% | 5.72% | 0.25% | 0.15% | 1.95% | 4.75% | 6.70% |
| 40 | | 0.11% | 0.06% | 3.52% | 4.40% | 0.39% | 0.26% | 1.70% | 4.75% | 6.45% |
| 45 | | 0.19% | 0.08% | 3.08% | 3.76% | 0.62% | 0.39% | 1.40% | 4.75% | 6.15% |
| 50 | | 0.34% | 0.13% | 2.82% | 3.36% | 0.95% | 0.63% | 1.00% | 4.75% | 5.75% |
| 55 | | 0.55% | 0.19% | 2.58% | 2.96% | 1.46% | 0.97% | 0.65% | 4.75% | 5.40% |
| 60 | | 0.84% | 0.32% | 0.60% | 0.80% | 1.88% | 1.70% | 0.54% | 4.75% | 5.29% |
| Ref | | 0.7 | * 69 | 185 | 186 | 192 | 193 | 149 | | |
| | | | | 326 | 327 | | | | | |

The pay increase assumptions are age based only, and not service based

LAW ENFORCEMENT
SEPARATIONS FROM ACTIVE EMPLOYMENT BEFORE AGE & SERVICE RETIREMENT
& INDIVIDUAL PAY INCREASE ASSUMPTIONS

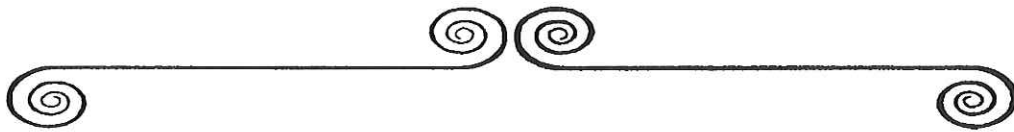
| Sample Ages | Years of Service | Percent of Active Members Separating Within the Next Year | | | | Pay Increase Assumptions For An Individual Employee | | |
|----------------|---------------------|--|-------|------------|--------|--|----------------------|-------------------|
| | | Death | | Withdrawal | | Disability | Merit & Seniority | Base (Economy) |
| | | Men | Women | Men | Women | | | |
| | 0 | | | | 18.00% | | | |
| | 1 | | | | 10.00% | | | |
| | 2 | | | | 8.00% | | | |
| | 3 | | | | 7.00% | | | |
| | 4 | | | | 6.00% | | | |
| | 5 & Over | | | | | | | |
| 25 | | 0.04% | 0.02% | | 4.80% | 0.20% | 5.10% | 4.75% |
| 30 | | 0.05% | 0.03% | | 3.52% | 0.26% | 3.10% | 4.75% |
| 35 | | 0.07% | 0.04% | | 2.78% | 0.42% | 2.10% | 4.75% |
| 40 | | 0.11% | 0.06% | | 2.32% | 0.62% | 1.70% | 4.75% |
| 45 | | 0.19% | 0.08% | | 1.96% | 1.06% | 1.35% | 4.75% |
| 50 | | 0.34% | 0.13% | | 1.62% | 1.54% | 1.14% | 4.75% |
| 55 | | 0.55% | 0.19% | | 1.60% | 2.12% | 1.00% | 4.75% |
| 60 | | 0.84% | 0.32% | | 0.50% | 2.76% | 0.70% | 4.75% |
| Ref | | 0.7 | * 68 | 0.7 | * 69 | 187 | 150 | |
| | | | | | 328 | 194 | | |

The pay increase assumptions are age based only, and not service based

Single Life Retirement Values

| Sample Attained Ages | Present Value of \$1 Monthly for Life Increasing 3.0% Annually (First Increase After 1 Year) | | Future Life Expectancy (years) | |
|----------------------------|---|-----------|-----------------------------------|---------|
| | Males | Females | Males | Females |
| 50 | \$169.73 | \$186.48 | 28.55 | 34.58 |
| 55 | 156.48 | 175.64 | 24.26 | 29.89 |
| 60 | 141.12 | 162.15 | 20.19 | 25.31 |
| 65 | 123.82 | 146.02 | 16.40 | 20.92 |
| 70 | 105.70 | 127.19 | 13.02 | 16.76 |
| 75 | 88.21 | 106.96 | 10.17 | 13.03 |
| 80 | 71.30 | 87.22 | 7.75 | 9.89 |
| Ref: | 68 x 0.90 | 69 x 0.90 | | |

Section IX
Financial Principles



FINANCIAL PRINCIPLES AND OPERATIONAL TECHNIQUES OF PERS

Promises Made, and To Be Paid For. As each year is completed, PERS in effect hands an "IOU" to each member then acquiring a year of service credit --- the "IOU" says: "The Public Employees Retirement System of Ohio owes you one year's worth of retirement benefits, payments in cash commencing when you qualify for retirement."

The related *key financial questions* are:

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

The present taxpayers, who receive the benefit of the member's present year of service? *Or the future taxpayers*, who happen to be in Ohio at the time the IOU becomes a cash demand, years and often decades later?

The law governing PERS financing intends that this year's taxpayers contribute the money to cover the IOUs being handed out this year. With this financial objective, *the employer contribution rate is expected to remain approximately level from generation to generation of taxpayers.*

There are systems which have a design for deferring contributions to future taxpayers. Lured by a lower contribution rate now, they put aside the consequence that the contribution rate must then relentlessly grow to a level much higher than would be required if a level contribution pattern were followed.

An inevitable by-product of the level-cost design is the accumulation of reserve assets, for decades, and the income produced when the assets are invested. *Investment income* becomes *the 3rd and largest contributor* for benefits to employees, and is interlocked with the contribution amounts required from employees and employers.

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

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

... plus ...

Interest on Unfunded Actuarial Accrued Liabilities (unfunded actuarial accrued liabilities are the difference between: liabilities for service already rendered; and the accrued assets of PERS).

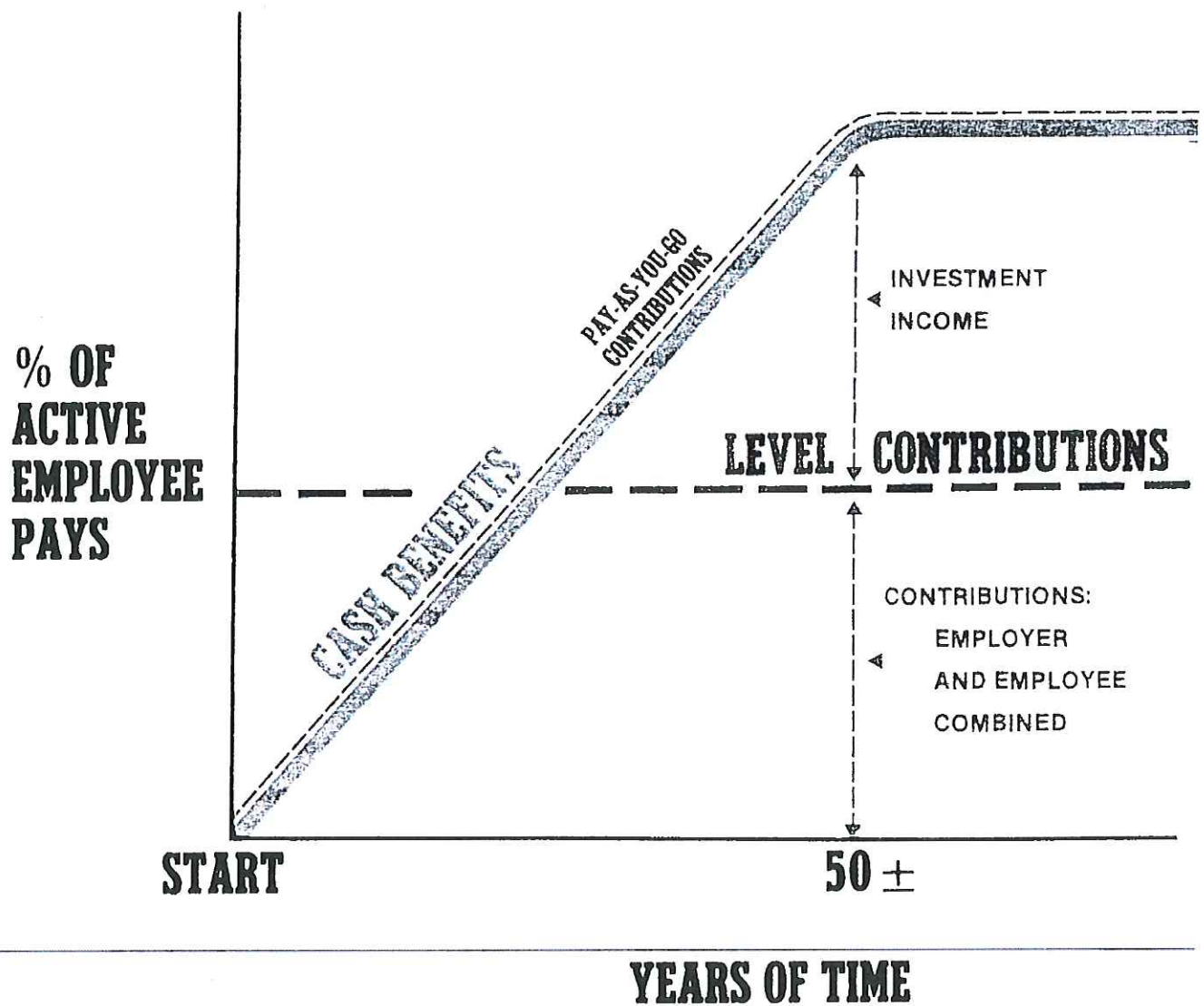
Computing Contributions to Support Fund Benefits. From a given schedule of benefits and from employee and asset data, the actuary calculates the contribution rates to support the benefits by means of *an actuarial valuation and a funding method.*

An actuarial valuation has a number of ingredients such as: the rate of investment return which plan assets will earn; the rates of withdrawal of active members who leave covered employment; the rates of mortality; the rates of disability; the rates of pay increases; and the assumed age or ages at actual retirement.

In an actuarial valuation, assumptions must be made as to what the above rates will be for the next year and for decades in the future. The assumptions are established by the Retirement Board after receiving the advice of the actuary.

Reconciling Differences Between Assumed Experience and Actual Experience. Once actual experience has occurred and has been observed, it will not coincide exactly with assumed experience, regardless of the skill of the actuary and the many calculations made. The future can not be predicted with 100% precision.

PERS copes with these continually changing differences by having annual actuarial valuations. Each actuarial valuation is a complete recalculation of assumed future experience, taking into account all past differences between assumed and actual experience. The result is *continuing adjustments in financial position.*



CASH BENEFITS LINE. This relentlessly increasing line is the fundamental reality of retirement plan financing. It happens each time a new benefit is added for future retirements (and happens regardless of the design for contributing for benefits).

LEVEL CONTRIBUTION LINE. Determining the level contribution line requires detailed assumptions concerning a variety of experiences in future decades, including:

Economic Risk Areas

- Rates of investment return
- Rates of pay increase
- Changes in active member group size

Non-Economic Risk Areas

- Ages at actual retirement
- Rates of mortality
- Rates of withdrawal of active members (turnover)
- Rates of disability

THE ACTUARIAL VALUATION PROCESS

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

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

A. *Census Data*, including:

Retired lives now receiving benefits

Former employees with vested benefits not yet payable

Active employees

B. + *Asset data* (cash & investments)

C. + *Benefit provisions* that establish eligibility and amounts of payments to members

D. + *Assumptions concerning future experience* in various risk areas

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

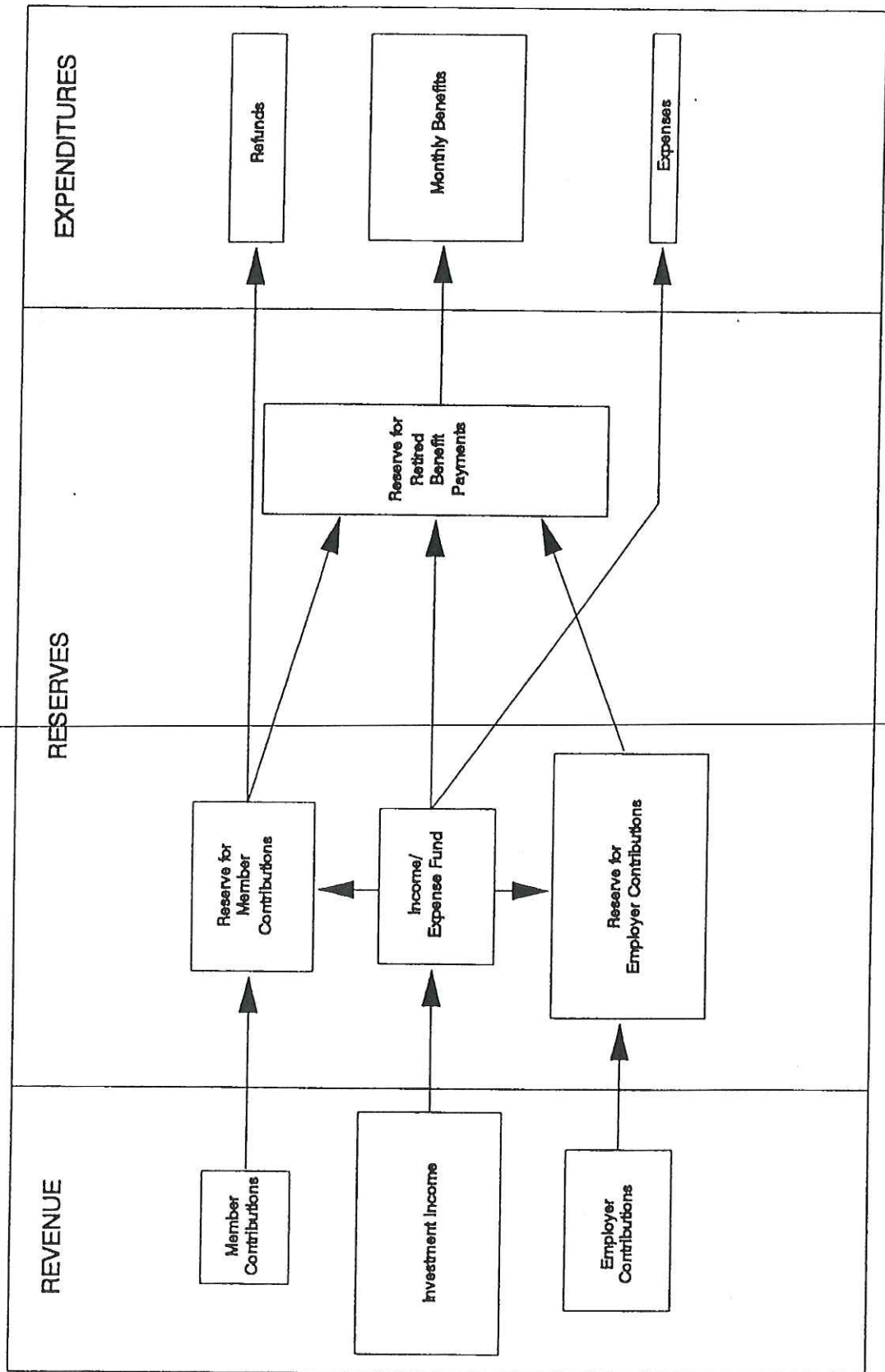
F. + *Mathematically combining the assumptions, the funding method, and the data*

G. = Determination of:

Plan Financial Position; and/or

New Employer Contribution Rate

Flow of Money Through the Retirement System



GLOSSARY

Accrued Service. The service credited under the plan which was rendered before the date of the actuarial valuation.

Accumulated Benefit Obligation. The actuarial present value of vested and non-vested benefits based on service to date and past and current salary levels.

Actuarial Accrued Liability. The difference between (i) the actuarial present value of future plan benefits, and (ii) the actuarial present value of future normal cost. Sometimes referred to as "accrued liability" or "past service liability."

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

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

Actuarial Equivalent. A single amount or series of amounts of equal value to another single amount or series of amounts, computed on the basis of the rate(s) of interest and mortality tables used by the plan.

Actuarial Present Value. The amount of funds presently required to provide a payment or series of payments in the future. It is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Actuary. A person who is trained in the applications of probability and compound interest to problems in business and finance that involve payment of money in the future, contingent upon the occurrence of future events. Most actuaries in the United States are Members of the American Academy of Actuaries. The Society of Actuaries is an international research, education and membership organization for actuaries in the life and health insurance, employee benefits, and pension fields. It administers a series of examinations leading initially to Associateship and the designation A.S.A. and ultimately to Fellowship with the designation F.S.A.

Amortization. Paying off an interest-bearing liability by means of periodic payments of interest and principal, as opposed to paying it off with a lump sum payment.

Experience Gain (Loss). A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, in accordance with the actuarial cost method being used.

Funding Value of Assets. The value of current plan assets recognized for valuation purposes. Generally based on a phased-in recognition of all or a portion of market related investment return. Sometimes referred to as Actuarial Value of Assets.

Normal Cost. The annual cost assigned, under the actuarial funding method, to current and subsequent plan years. Sometimes referred to as "current service cost." Any payment toward the unfunded actuarial accrued liability is not part of the normal cost.

Plan Termination Liability. The actuarial present value of future plan benefits based on the assumption that there will be no further accruals for future service and salary. The termination liability will generally be less than the liabilities computed on a "going concern" basis and is not normally determined in a routine actuarial valuation.

Reserve Account. An account used to indicate that funds have been set aside for a specific purpose and are not generally available for other uses.

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

MEANING OF "UNFUNDED ACTUARIAL ACCRUED LIABILITIES"

"Actuarial accrued liabilities" are the present value of the portions of promised benefits that are not covered by future normal cost contributions --- a liability has been established ("accrued") because the service has been rendered but the resulting monthly cash benefit may not be payable until years in the future.

If "actuarial accrued liabilities" at any time exceed the plan's accrued assets (cash & investments), the difference is *"unfunded actuarial accrued liabilities."* This is the common condition. If the plan's assets equaled the plan's "actuarial accrued liabilities", the plan would be termed "fully funded." This is an unusual condition.

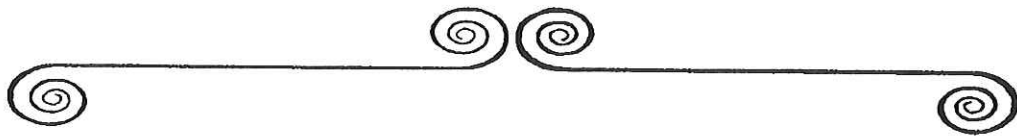
Each time a plan adds a new benefit which applies to service already rendered, an "actuarial accrued liability" is created, which is also an "unfunded actuarial accrued liability" because the plan can't print instant cash to cover the value of the new benefit promises. Payment for such unfunded actuarial accrued liabilities is spread over a period of years, commonly in the 15-40 year range.

Unfunded actuarial accrued liabilities can occur in another way: if actual plan experience is less favorable than assumed, the difference is added to unfunded actuarial accrued liabilities. For example, in plans where benefits are directly related to an employee's pay near time of retirement, unfunded actuarial accrued liabilities increased rapidly during the 1970's because unexpected rates of pay increase created additional actuarial accrued liabilities which could not be matched by reasonable investment results. Most of the unexpected pay increases were the direct result of inflation, which is a very destructive force on financial stability.

The existence of unfunded actuarial accrued liabilities is not bad but the changes from year to year in amount of unfunded actuarial accrued liabilities are important--- "bad" or "good" or somewhere in between.

Nor are unfunded actuarial accrued liabilities a bill payable immediately, but it is important that policy-makers prevent the amount from becoming unreasonably high and *it is vital for plans to have a sound method for making payments toward them* so that they are controlled.

Section X
GASB Reporting



**SCHEDULE OF FUNDING PROGRESS
FOR COMPLIANCE WITH GASB STATEMENT NO. 25
(\$ AMOUNTS IN MILLIONS)**

The schedule below measures the funding progress with respect to the *retirement allowance* portion of PERS benefits for compliance with GASB Statement No. 25. Assets and liabilities related to post-employment health care benefits are specifically excluded from the schedule. Assets do, however, include market value adjustments.

| Valuation Year | Actuarial Accrued Liabilities (AAL) | Valuation Assets | Unfunded Actuarial Accrued Liabilities (UAAL) | Ratio of Assets to AAL | Active Member Payroll | UAAL as a % of Active Member Payroll |
|----------------|-------------------------------------|------------------|---|------------------------|-----------------------|--------------------------------------|
| 1987 | \$16,231 | \$11,975 | \$4,256 | 74 % | \$4,543 | 94 % |
| 1988 | 17,246 | 13,249 | 3,997 | 77 % | 5,307 | 75 % |
| 1989 | 18,310 | 14,629 | 3,681 | 80 % | 5,597 | 66 % |
| 1990 | 20,125 | 16,245 | 3,880 | 81 % | 6,036 | 64 % |
| 1991 | 22,027 | 18,108 | 3,919 | 82 % | 6,651 | 59 % |
| 1992 | 23,961 | 20,364 | 3,597 | 85 % | 6,889 | 52 % |
| 1993 | 26,506 | 23,063 | 3,443 | 87 % | 7,236 | 48 % |
| 1994 | 28,260 | 25,066 | 3,194 | 89 % | 7,625 | 42 % |
| 1995 | 30,556 | 27,651 | 2,905 | 90 % | 7,973 | 36 % |
| 1995* | 30,224 | 27,651 | 2,573 | 91 % | 7,973 | 32 % |
| 1996 | 32,631 | 30,534 | 2,097 | 94 % | 8,340 | 25 % |
| 1997 | 34,971 | 33,846 | 1,125 | 97 % | 8,640 | 13 % |
| 1998 | 37,714 | 38,360 | (646) | 102 % | 9,017 | 0 % |
| 1999 | 43,070 | 43,060 | 10 | 100 % | 9,477 | 0 % |

* Revised actuarial assumptions.

SCHEDULE OF EMPLOYER CONTRIBUTIONS*
FOR COMPLIANCE WITH GASB STATEMENT NO. 25

| Year Ended December 31 | Annual Required Contributions | Percentage Contributed |
|-----------------------------------|--|-----------------------------------|
| 1989 | \$571,866,966 | 100% |
| 1990 | 558,119,779 | 100% |
| 1991 | 607,811,880 | 100% |
| 1992 | 646,170,989 | 100% |
| 1993 | 663,680,518 | 100% |
| 1994 | 693,802,578 | 100% |
| 1995 | 725,893,573 | 100% |
| 1996 | 777,781,045 | 100% |
| 1997 | 811,485,028 | 100% |
| 1998 | 886,684,171 | 100% |
| 1999 | 935,429,955 | 100% |

* *The amounts reported in this schedule do not include contributions for post-employment healthcare benefits.*

**SCHEDULE OF UNFUNDED ACTUARIAL ACCRUED LIABILITY@
FOR COMPLIANCE WITH GASB STATEMENT NO. 25**

| | December 31, 1999 | | | | |
|--------------------------------------|-------------------|-------------------|----------------|------------------|-------------------|
| | State Group | Local Group | Law A Group | Law B Group | Total |
| Accrued Liabilities | | | | | |
| Active and Inactive Members | \$ 10,298,140,226 | \$ 14,642,847,777 | \$ 158,255,350 | \$ 921,580,510 | \$ 26,020,823,863 |
| Retirees and Beneficiaries | 7,119,426,469 | 9,483,454,159 | 0 | 446,694,113 | 17,049,574,741 |
| Total Accrued Liabilities | \$ 17,417,566,695 | \$ 24,126,301,936 | \$ 158,255,350 | \$ 1,368,274,623 | \$ 43,070,398,604 |
| Assets | | | | | |
| Active and Inactive Members | | | | | |
| EAF* | \$ 6,399,384,344 | \$ 8,708,985,252 | \$ 109,979,834 | \$ 576,519,607 | \$ 15,794,869,037 |
| ESF | 2,738,920,054 | 3,967,099,054 | 33,217,785 | 205,552,268 | 6,944,789,161 |
| MVA | 1,336,333,377 | 1,821,443,048 | 11,770,386 | 101,000,626 | 3,270,547,437 |
| Total Active and Inactive Assets | 10,474,637,775 | 14,497,527,354 | 154,968,005 | 883,072,501 | 26,010,205,635 |
| Retirees and Beneficiaries | | | | | |
| A & PR Fund* | 6,787,529,483 | 8,925,110,957 | 0 | 426,037,376 | 16,138,677,816 |
| SBF Fund* | 331,896,986 | 558,343,204 | 0 | 20,656,739 | 910,896,929 |
| Total R&B Assets | 7,119,426,469 | 9,483,454,161 | 0 | 446,694,115 | 17,049,574,745 |
| Total Assets | \$ 17,594,064,244 | \$ 23,980,981,515 | \$ 154,968,005 | \$ 1,329,766,616 | \$ 43,059,780,380 |
| Unfunded Actuarial Accrued Liability | \$ (176,497,549) | \$ 145,320,421 | \$ 3,287,345 | \$ 38,508,007 | \$ 10,618,224 |

@ The amounts reported in this schedule do not include contributions for post-employment healthcare benefits.
* After reserve transfers