Indiana State Teachers' ReilrementFund THE REPORTOF THE Annualactuarial Valuation<br>ASOF<br>J une 30, 2005

## GRS

Gabriel Roeder Smith \& Company

January 24, 2006

The Board of Trustees
Indiana State Teachers' Retirement Fund
Indianapolis, Indiana
Dear Board Members:

Submitted in this report are the results of the June 30, 2005 actuarial valuation of the Indiana State Teachers’ Retirement Fund.

The member census data and the asset information for this valuation were furnished by your Executive Director and Staff. Their efforts and cooperation in furnishing these materials are acknowledged with appreciation. We did not audit the information provided, but we did review it for reasonableness and compared it with the prior year's submission for consistency.

The actuarial assumptions were adopted by the Board pursuant to the Experience Study dated August 14, 2003 and are summarized in Section G.

Your attention is directed to the Summary of Valuation Results on pages 1 through 2 and the Comments on pages A-1 and A-2.

The valuation was completed under the supervision of a Member of the American Academy of Actuaries with significant experience in valuing public employee retirement systems, and was prepared using generally accepted actuarial principles and in accordance with standards of practice prescribed by the Actuarial Standards Board. To the best of our knowledge, this report is complete and accurate and the actuarial methods and assumptions produce results which are reasonable.

Respectfully submitted,


JAK:clb

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## SUMMARY OF RESULTS

## Summary of Key Valuation Results <br> June 30, 2005



* For additional information on Contribution Rates see page A-3.


## SECTION A

## Contribution Rates

Page A-3 shows the computed contribution rates for the Pre-1996 Fund, the 1996 Fund and the combination of the two plans. It is this combined column that represents the level percent of payroll funding for the ISTRF. The computed contribution rate for the Pre-1996 Fund is shown for comparison purposes only, since this plan is funded on a pay-as-you-go basis. The computed contribution rate for the 1996 Fund is calculated as if it were a stand-alone plan.

## Plan Provisions

The ad-hoc COLA effective January 1, 2006 pursuant to IC 5-10.2-5-39 has been taken into consideration for the purpose of calculating plan liabilities. There were no other changes in plan provisions since the June 30, 2004 actuarial valuation.

## Data

Data for the valuation was provided by ISTRF from Indiana Pension Systems, Inc. We reviewed the data for general consistency with the prior year, but did not otherwise audit it.
We hope that, with the help of ISTRF staff, we will have the ability to track additional information that has traditionally been unavailable. The additional information includes:

1) July 1 retirees. We have assumed that these retirees are reported as active members for the June 30 valuation. For Teacher plans, July 1 retirees are a special case and should be treated as active;
2) Federally funded teachers. Currently, all federally funded teachers along with their member and employer contributions are reported in the Pre-1996 Fund. This results in an overstatement of Pre-1996 Fund liabilities and assets and an understatement of 1996 Fund liabilities and assets. If ISTRF staff could identify these individuals we could then assign them to the proper fund.
3) Unused Sick Leave lump sum paid upon retirement. We request that ISTRF collect information regarding amounts paid to each member so that we may refine our estimates.

## Pension Stabilization Fund

The Pension Stabilization Fund (PSF) was established as a means to partially pre-fund liabilities in the Pre-1996 Fund. In the past few years, contributions to the PSF were suspended and PSF funds were used to pay pensions to Pre-1996 Fund members. More recent legislation reestablished the mechanism for lottery money to flow into the PSF (\$30 million per year) and limited the amount of annual withdrawals somewhat. However, we understand that the same legislation allows for a substantial transfer from the PSF to the 1996 Fund effective July 1, 2006. This transfer will reduce the unfunded accrued liability in the 1996 Fund and likely lower the computed employer contribution rate for that plan while increasing the unfunded liability (and future pay-as-you-go contributions) in the Pre-1996 Fund. Since the only substantial source of pre-funding for the ISTRF comes from the school districts, the transfer results in a reduction in ISTRF contributions in the long term, deferring more obligation to future generations (see recommendations).

## Comments

## Change in Assumptions

ISTRF has granted retirees ad-hoc COLAs on a regular basis. In accordance with recent legislation, the ISTRF is required to account for future COLAs in reported liabilities. In the past, COLAs have averaged $1.5 \%$ per year. Whether or not COLAs will be paid at levels similar to the past depends on the financial situation of ISTRF each year. Beginning with the June 30, 2005 valuation, future ad-hoc COLAs are assumed to be $0.5 \%$ compounded annually. This assumption was designated by the Board after consulting with the actuary and the budget agency.

## Investment Experience

Investment experience for the year ended June 30, 2005 was favorable. The market rate of return was 8.3\% (see page A-5). Under the asset valuation method, market gains and losses are spread over a 4year period. The Market Value of assets now exceeds the Funding Value by $\$ 114.4$ million. If the Market Value of assets had been the basis for the valuation, the funded ratio would be $44 \%$.

## Recommendations

Currently, the Retired Member Liabilities (annuity plus pension) are less than $100 \%$ of the Retired Member Reserve in the 1996 Fund. This is partly the result of changes in retired member data from year to year, and granting ad-hoc COLAs to the retired group. We recommend that a reserve transfer of $\$ 73,520,194$ be made from the Employer Reserve for Active Members to the Retired Member Reserve to restore the balance between assets and liabilities.

The financial condition of the ISTRF remains very weak with one of the lowest funded ratios in the nation. We continue to recommend a change in the funding policy to provide for contributions on behalf of all members (not just the 1996 Fund members) on an actuarially determined basis. The current pay-as-you-go method for Pre-1996 Fund members could result in the inability to pay pensions as the growing pension payroll puts additional cash demands on State finances.

## COMPUTED EMPLOYER CONTRIBUTION RATES <br> June 30, 2005

| Contributions for | Employer Contributions As \%s of Active Payroll For Fiscal Year Ending 2007 |  |  |
| :---: | :---: | :---: | :---: |
|  | Pre-1996 Fund | 1996 Fund | Totals |
| Normal Cost: |  |  |  |
| Age and Service Pensions | 5.91\% | 6.10\% | 5.98\% |
| Disability and Death-in-Service | 0.27\% | 0.27\% | 0.27\% |
| Totals | 6.18\% | 6.37\% | 6.25\% |
| Unfunded Actuarial Accrued Liability (UAAL): Totals | 17.76\% | 2.61\% | 11.96\% |
| Computed Employer Contribution Rates | 23.94\% | 8.98\% | 18.21\% |
| \$ Contribution Based on Computed Rates | \$603,000,000 | \$140,000,000 | \$743,000,000 |
| Fiscal Year 2007 Expected Employer Contribution Amount Based on Budgeted Rates | \$569,000,000 | \$109,000,000 | \$678,000,000 |

## Comments Regarding Contribution Rates

- The Expected Employer Contribution Amount shown for the Pre-1996 Fund is the amount of pension benefits expected to be paid in the 2007 fiscal year. This amount expressed as a percentage of valuation payroll is $24.67 \%$.
- The Expected Employer Contribution Amount shown for the 1996 Plan is the current Board-adopted rate of $7 \%$ of payroll multiplied by the projected valuation payroll. This rate is less than the computed contribution rate of $8.98 \%$ of payroll shown above. If actual contributions made are consistently lower than the computed rate, the funding position of the 1996 Plan will continue to decline.
- The dollar contribution based on computed rates is a projection to the 2007 fiscal year at the 4.5\% payroll growth rate assumption and is provided for comparison purposes.
- Unfunded actuarial accrued liabilities are being amortized over 29 future years.


## Comments Regarding Development of Assets and Liabilities

The Market Value of Assets as of June 30, 2005 was reported to be $\$ 7,179,715,874$. Using this figure, the Funding Value of Assets (based on the method first implemented for the June 30, 2002 valuation) is $\$ 7,065,299,474$ (see page A-5). The difference between the Market Value of Assets and the Funding Value of Assets is the Funding Value Adjustment. This amount is allocated between the Pre-1996 Fund and the 1996 Fund based on the respective Market Value of Assets for those Reserves.

The derivation of the Non-Investment Net Cash Flow used in the development of the Funding Value of Assets is shown below. Further details can be found on page F-4.

## Development of Non-Investment Net Cash Flow

## Additions

| Member Contributions | $\$ 117,897,343$ <br> Employer Contributions | $484,778,888$ |
| :--- | ---: | ---: |
| Total Contributions | $\$ 602,676,231$ |  |
| Other Additions |  | $4,828,183$ |
| Total Additions | $\$ 607,504,414$ |  |

## Deductions

Benefit Payments
\$ 732,971,666
Other Deductions
Total Deductions
Non-Investment Net Cash Flow

|  | $2,981,634$ |
| ---: | ---: |
| $\$ 735,953,300$ |  |
| $\$(128,448,886)$ |  |


| Year Ended June 30: | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A. Funding Value Beginning of Year | \$6,176,574,529 | \$6,554,364,927 | \$6,804,394,628 |  |  |  |
| B. Market Value End of Year | 6,155,527,008 | 6,754,291,553 | 7,179,715,874 |  |  |  |
| C. Market Value Beginning of Year | 5,722,753,180 | 6,155,527,008 | 6,754,291,553 |  |  |  |
| D. Non-Investment Net Cash Flow | 94,378,676 | $(109,203,398)$ | $(128,448,886)$ |  |  |  |
| E. Investment Retuen |  |  |  |  |  |  |
| E1. Market Total: B-C - D | 338,395,152 | 707,967,943 | 553,873,207 |  |  |  |
| E2. Amount for Immediate Recognition (7.5\%) | 466,782,290 | 487,482,242 | 505,512,764 |  |  |  |
| E3. Amount for Phased-In Recognition: E1-E2 | $(128,387,138)$ | 220,485,701 | 48,360,443 |  |  |  |
| F. Phased-In Recognition of Investment Gain/(loss) |  |  |  |  |  |  |
| F1. Current Year: $0.25 \times \mathrm{E} 3$ | \$ (32,096,785) | \$ 55,121,425 | \$ 12,090,111 |  |  |  |
| F2. First Prior Year | $(151,273,783)$ | $(32,096,785)$ | 55,121,425 | \$ 12,090,111 |  |  |
| F3. Second Prior Year | - | $(151,273,783)$ | $(32,096,785)$ | 55,121,425 | \$ 12,090,111 |  |
| F4. Third Prior Year | - | - | $(151,273,783)$ | (32,096,785) | 55,121,425 | \$ 12,090,113 |
| F5. Total Recognized Investment Gain/(Loss) | \$ (183,370,568) | \$ (128,249,143) | \$ (116,159,032) | \$ 35,114,751 | \$ 67,211,536 | \$ 12,090,113 |
| G. Total Return Amount Recognized this Year: E2 + F5 | \$ 283,411,722 | \$ 359,233,099 | \$ 389,353,732 |  |  |  |
| H. Preliminary Funding Value End of Year: A + D + G | 6,554,364,927 | 6,804,394,628 | 7,065,299,474 |  |  |  |
| H1. 120\% of Market Value End of Year | 7,386,632,410 | 8,105,149,864 | 8,615,659,049 |  |  |  |
| H2. 80\% of Market Value End of Year | 4,924,421,606 | 5,403,433,242 | 5,743,772,699 |  |  |  |
| H3. Funding Value End of Year: H, but not greater than H1, nor less than H2 | \$6,554,364,927 | \$ 6,804,394,628 | \$ 7,065,299,474 |  |  |  |
| I. Difference between Market and Funding Value: B - H3 | \$ $(398,837,919)$ | \$ $(50,103,075)$ | \$ 114,416,400 | \$ 79,301,649 | \$ 12,090,113 | \$ |
| J. Recognized Rate of Return | 4.6\% | 5.5\% | 5.8\% |  |  |  |
| K. Market Value Rate of Return | 5.9\% | 11.6\% | 8.3\% |  |  |  |

The Funding Value of Assets recognizes assumed investment income (line E2) fully each year. Differences between actual and assumed investment income (line E3) 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. The Funding Value of Assets is unbiased with respect to Market Value. At any time it may be either greater or less than Market Value. If assumed rates are exactly realized for 3 consecutive years, it will become equal to Market Value.

## DERIVATION OF EXPERIENCE GAIN (Loss) <br> JUNE 30, 2005

Actual experience will never (except by coincidence) match exactly with assumed experience. It is hoped that gains and losses will cancel each other over a period of years, but sizable year-to-year fluctuations are common. Detail on the derivation of the experience gain (loss) is shown below.
(1) UAAL* at start of year
(2) Normal cost from last valuation
\$8,393,531,361
(3) Actual employer contributions
219,099,188
484,778,888
(4) Interest accrual: [(1) + 1/2 ((2) - (3))] x . 075
619,551,863
(5) Expected UAAL before changes: (1) + (2) - (3) + (4) 8,747,403,524
(6) Change from benefit improvements
0
(7) Change from revised actuarial methods and assumptions\#
460,344,226
(8) Expected UAAL after changes: (5) + (6) + (7)
9,207,747,750
(9) Actual UAAL at end of year
9,199,593,968
(10) Gain (loss): (8) - (9)
8,153,782
(11) Gain (loss) as percent of actuarial accrued liabilities at start of year of $\$ 15,197,925,988$
0.1 \%

* Unfunded actuarial accrued liabilities.
\# Increase in UAAL resulting from $0.5 \%$ compound COLA assumption.

| June 30 | Experience Gain (Loss) <br> As \% of Beginning <br> Accrued Liabillity |
| :---: | :---: |
| 2005 | $0.1 \%$ |

This schedule does not take into account any differences between actual contributions and recommended contributions based on level funding.

## DEVELOPMENT OF AsSETS AND LIABILITIES <br> JUNE 30, 2005

## (MARKET VALUE BASIS)

| Reserve Allocation | Pre-1996 Fund | 1996 Fund | Total |
| :--- | ---: | ---: | ---: |
| Member Reserves: |  |  |  |
| Active and Inactive | $\$ 2,925,366,625$ | $\$ 535,179,132$ | $\$ 3,460,545,757$ |
| Retired | $669,751,284$ | $21,056,995$ | $690,808,279$ |
| Total Member Reserves | $3,595,117,909$ | $556,236,127$ | $4,151,354,036$ |
| Employer Reserves: |  |  |  |
| Active |  |  |  |
| Retired |  |  |  |
| $\quad$ Pension Stabilization Fund | $1,971,031,635$ |  | 605,371,216 |

## Actuarial Accrued Liability: Computed and Unfunded

|  | Pre-1996 Fund | 1996 Fund | Total |
| :---: | :---: | :---: | :---: |
| Retired Members and Beneficiaries: |  |  |  |
| Computed accrued liability | \$ 5,653,502,508 | \$ 219,721,536 | \$ 5,873,224,044 |
| Allocated assets (market value) | 2,965,229,956 | 148,568,946 | 3,113,798,902 |
| Funding Value adjustment | $(47,254,089)$ | $(2,367,604)$ | $(49,621,693)$ |
| Unfunded Accrued Liability | 2,735,526,641 | 73,520,194 | 2,809,046,835 |
| Active and Inactive Members: |  |  |  |
| Computed accrued liability | 8,600,644,068 | 1,791,025,332 | 10,391,669,400 |
| Allocated assets (market value) | 2,925,366,625 | 1,140,550,348 | 4,065,916,973 |
| Funding Value adjustment | $(46,618,825)$ | $(18,175,881)$ | (64,794,706) |
| Unfunded Accrued Liability | 5,721,896,268 | 668,650,865 | 6,390,547,133 |
| ISTRF Total: |  |  |  |
| Computed accrued liability | 14,254,146,576 | 2,010,746,868 | 16,264,893,444 |
| Allocated assets (market value) | 5,890,596,581 | 1,289,119,294 | 7,179,715,875 |
| Funding Value adjustment | (93,872,914) | $(20,543,485)$ | $(114,416,399)$ |
| Unfunded Accrued Liability | \$ 8,457,422,909 | \$ 742,171,059 | \$ 9,199,593,968 |

# Pre-1996 Fund BALANCE SHEET <br> Summary Statement of Fund Resources and Obligations <br> JUNE 30, 2005 

## Present Resources and Expected Future Resources

A. Funding value of system assets

1. Net assets from Fund financial statements
2. Funding value adjustment
3. Funding value of assets

| Annuities | Pensions | Total |
| ---: | ---: | ---: |
| $\$ 3,595,117,909$ | $\$ 2,295,478,672$ | $\$ 5,890,596,581$ |
| $(57,292,023)$ | $(36,580,891)$ | $(93,872,914)$ |
| $3,537,825,886$ | $2,258,897,781$ | $5,796,723,667$ |

B. Actuarial present value of expected future employer contributions

1. For normal costs
2. For unfunded actuarial accrued liability
3. Total

| 0 | $1,157,487,700$ | $1,157,487,700$ |
| ---: | ---: | ---: |
| $48,179,944$ | $8,409,242,965$ | $8,457,422,909$ |
| $48,179,944$ | $9,566,730,665$ | $9,614,910,609$ |

C. Present value of expected future member contributions*

565,329,678
0
565,329,678
D. Total Present and Future Resources
\$4,151,335,508
\$11,825,628,446
\$15,976,963,954

## Actuarial Present Value of Expected Future Benefit Payments and Reserves

A. To retired members and beneficiaries

1. Annual benefits
2. Reserve
3. Totals
B. To vested terminated members

| 1. Allocated to service rendered prior to | $2,674,821,470$ | $5,571,463,807$ | $8,246,285,277$ |
| :--- | ---: | ---: | ---: |
| valuation date |  |  |  |
| 2. Allocated to service likely to be rendered after <br> valuation date* | $565,329,678$ | $1,157,487,700$ | $1,722,817,378$ |
| 3. Total | $3,240,151,148$ | $6,728,951,507$ | $9,969,102,655$ |

C. To present active members
D. Total Actuarial Present Value of Expected Future Benefit Payments and Reserves

1. Allocated to service rendered prior to
2. Allocated to service likely to be rendered after valuation date*
3. Total

* Based on 3\% mandatory member contributions.

| Annuities | Pensions | Total |
| ---: | ---: | ---: |
|  |  |  |
| $\$ 707,258,030$ | $\$ 4,946,244,478$ | $\$ 5,653,502,508$ |
| 0 | 0 | 0 |
| $707,258,030$ | $4,946,244,478$ | $5,653,502,508$ |

203,926,330 150,432,461 354,358,791

2,674,821,470 5,571,463,807 8,246,285,277

$$
\$ 4,151,335,508 \quad \$ 11,825,628,446 \quad \$ 15,976,963,954
$$

# 1996 FUND BALANCE SHEET <br> Summary Statement of Fund Resources and Obligations <br> JUNE 30, 2005 

## Present Resources and Expected Future Resources

|  | Annuities | Pensions | Total |
| :---: | :---: | :---: | :---: |
| A. Funding value of system assets |  |  |  |
| 1. Net assets from Fund financial statements | \$556,236,127 | \$ 732,883,167 | \$ 1,289,119,294 |
| 2. Funding value adjustment | $(8,864,214)$ | $(11,679,271)$ | $(20,543,485)$ |
| 3. Funding value of assets | 547,371,913 | 721,203,896 | 1,268,575,809 |
| B. Actuarial present value of expected future employer contributions |  |  |  |
| 1. For normal costs | 0 | 1,286,429,089 | 1,286,429,089 |
| 2. For unfunded actuarial accrued liability | 1,514,779 | 740,656,280 | 742,171,059 |
| 3. Total | 1,514,779 | 2,027,085,369 | 2,028,600,148 |
| C. Present value of expected future member contributions* | 613,550,197 | 0 | 613,550,197 |
| D. Total Present and Future Resources | \$1,162,436,889 | \$2,748,289,265 | \$3,910,726,154 |

## Actuarial Present Value of Expected Future Benefit Payments and Reserves

A. To retired members and beneficiaries

1. Annual benefits
2. Reserve
3. Totals
B. To vested terminated members
C. To present active members
4. Allocated to service rendered prior to
valuation date
5. Allocated to service likely to be rendered after
valuation date*
6. Allocated to service rendered prior to
valuation date
7. Allocated to service likely to be rendered after
valuation date*
8. Allocated to service rendered prior to
valuation date
9. Allocated to service likely to be rendered after
valuation date*
10. Allocated to service rendered prior to
valuation date
11. Allocated to service likely to be rendered after
valuation date*
12. Total

| Annuities | Pensions | Total |  |
| ---: | ---: | ---: | ---: |
| \$ 22,236,208 | $\$$ | $197,485,328$ | $\$$ |
| 0 |  | $219,721,536$ |  |
| $22,236,208$ | $197,485,328$ | $219,721,536$ |  |

57,351,750
23,251,433
80,603,183

| $613,550,197$ | $1,286,429,089$ | $1,899,979,286$ |
| ---: | ---: | ---: |
| $1,082,848,931$ | $2,527,552,504$ | $3,610,401,435$ |

D. Total Actuarial Present Value of Expected Future Benefit Payments
\$1,162,436,889
\$2,748,289,265
\$3,910,726,154

* Based on 3\% mandatory member contributions.


## Section B

## Historical Comparisons of Valuation Results and Data

| Valuation <br> Date <br> June 30 | Normal Cost | Pre-1996 FUND |  |  | Total Employer Rate |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Unfunded Actuarial Accrued Liability (UAAL) |  |  |  |
|  |  | Active and Inactive | Retired | Totals |  |
| 1967 | 4.10\% | 4.56\% | 1.77\% | 6.33\% | 10.43\% |
| 1969 | 4.20 | 4.61 | 1.90 | 6.51 | 10.71 |
| 1971 | 4.17 | 4.22 | 2.07 | 6.29 | 10.46 |
| 1975\# | 6.31 | 3.51 | 1.38 | 4.89 | 11.20 |
| 1977 | 6.86 | 4.07 | 1.71 | 5.78 | 12.64 |
| 1979 | 6.75 | 4.20 | 1.81 | 6.01 | 12.76 |
| 1980 | 6.71 | 4.26 | 1.80 | 6.06 | 12.77 |
| 1981 | 6.75 | 4.02 | 1.72 | 5.74 | 12.49 |
| 1983\# | 6.50 | 2.46 | 1.15 | 3.61 | 10.11 |
| 1985 | 6.35 | 2.63 | 1.05 | 3.68 | 10.03 |
| 1987 | 6.35 | 2.70 | 1.02 | 3.72 | 10.07 |
| 1989\# | 7.59 | 3.16 | 0.96 | 4.12 | 11.71 |
| 1991 | 7.50 | 3.26 | 0.95 | 4.21 | 11.71 |
| 1992\# | 7.79 | 3.39 | 0.99 | 4.38 | 12.17 |
| 1993 | 7.79 | 3.37 | 1.01 | 4.38 | 12.17 |
| 1994 | 7.79 | 3.44 | 1.07 | 4.51 | 12.30 |
| 1995 | 7.79 | 6.73 | 2.22 | 8.95 | 16.74 |
| 1996 | 7.79 | 6.83 | 2.34 | 9.17 | 16.96 |
| 1997\# | 7.44 | 7.07 | 2.26 | 9.33 | 16.77 |
| 1998 | 7.42 | 7.41 | 2.27 | 9.68 | 17.10 |
| 1999 | 7.42 | 7.76 | 1.84 | 9.60 | 17.02 |
| 2000 | 7.39 | 8.21 | 1.95 | 10.16 | 17.55 |
| 2001 | 7.32 | 8.48 | 2.05 | 10.53 | 17.85 |
| 2002\# | 7.39 | 8.74 | 2.23 | 10.97 | 18.36 |
| 2003\# | 5.99 | 9.68 | 3.64 | 13.32 | 19.31 |
| 2004\# | 5.94 | 10.79 | 4.64 | 15.43 | 21.37 |
| 2005\#* | 6.18 | 12.62 | 5.14 | 17.76 | 23.94 |

[^0]
## COMPUTED EMPLOYER CONTRIBUTION RATES Expressed as Percents of Payroll Historical Comparison

## 1996 Fund

| Valuation Date June 30 | Normal Cost | Unfunded Actuarial Accrued Liability (UAAL) |  |  | Total Employer Rate |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Active and Inactive | Retired | Totals |  |
| 1996 | 7.66\% | 1.36\% | 0.00\% | 1.36\% | 9.02\% |
| 1997\# | 7.61 | 1.51 | 0.00 | 1.51 | 9.12 |
| 1998 | 7.61 | 1.46 | 0.00 | 1.46 | 9.07 |
| 1999 | 7.58 | 1.70 | 0.00 | 1.70 | 9.28 |
| 2000 | 7.61 | 1.93 | 0.00 | 1.93 | 9.54 |
| 2001 | 7.46 | 1.86 | 0.00 | 1.86 | 9.32 |
| 2002\# | 7.53 | 1.97 | 0.00 | 1.97 | 9.50 |
| 2003\# | 6.20 | 1.77 | 0.32 | 2.09 | 8.29 |
| 2004\# | 6.14 | 2.10 | 0.15 | 2.25 | 8.39 |
| 2005\#* | 6.37 | 2.35 | 0.26 | 2.61 | 8.98 |

* Based on 0.5\% future COLA assumption.
\# After amendments and/or revised actuarial assumptions and/or methods.

If the contributions to ISTRF are level in concept and soundly executed, the Fund will pay all promised benefits when due -- the ultimate indicator of financial soundness.

One short-term means of checking a fund's progress under its funding program is shown below. In this indicator, the fund's present assets (cash and investments) are compared with:

1) active member contributions on deposit;
2) liability for future benefits to present retired lives; and
3) liability for service already rendered by active members.

In a fund that has been following the discipline of level percent-of-payroll financing, the liability for active member contributions on deposit (Liability l) and the liability for future benefits to present retired lives (Liability 2) will be fully covered by present assets (except in rare circumstances). In addition, the liability for service already rendered by active members (Liability 3) will be partially covered by the remainder of present assets. The State's past practice of contributing on a "pay-as-you-go" basis has resulted in Liability 2 being less than 100\% funded in the Pre-1996 Fund.

| June 30 | Computed Actuarial Accrued Liability |  |  | Valuation Assets | Portion of Accrued Liability Covered by Assets |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (1) <br> Member Contr. | (2) <br> Retired Members | (3) <br> Present Members (Employer-Financed Portion) |  |  |  |  |
|  |  |  | (\$ in Millions) |  | (1) | (2) | (3) |
| 1975\#(a) | \$ 216 | \$ 451 | \$ 903 | \$ 312 | 100\% | 21\% | 0\% |
| 1977\# | 265 | 634 | 1,246 | 375 | 100 | 17 | - |
| 1979\#(a) | 324 | 777 | 1,481 | 466 | 100 | 18 | - |
| 1980 | 373 | 838 | 1,632 | 539 | 100 | 18 | - |
| 1981 | 423 | 885 | 1,649 | 601 | 100 | 20 | - |
| 1983(a) | 544 | 1,043 | 1,751 | 765 | 100 | 21 | - |
| 1985 | 713 | 1,198 | 2,112 | 1,073 | 100 | 30 | - |
| 1987 | 932 | 1,406 | 2,499 | 1,401 | 100 | 33 | - |
| 1989\# | 1,132 | 1,624 | 3,449 | 1,707 | 100 | 35 | - |
| 1991 | 1,373 | 1,853 | 3,956 | 2,161 | 100 | 43 | - |
| 1992(a) | 1,521 | 2,059 | 4,369 | 2,376 | 100 | 42 | - |
| 1993 | 1,665 | 2,290 | 4,553 | 2,592 | 100 | 41 | - |
| 1994 | 1,812 | 2,483 | 4,792 | 2,808 | 100 | 40 | - |
| 1995 | 1,930 | 2,716 | 5,029 | 2,984 | 100 | 39 | - |
| 1996 | 2,070 | 2,968 | 5,245 | 3,242 | 100 | 39 | - |
| 1997(a) | 2,188 | 3,234 | 5,447 | 3,678 | 100 | 46 | - |
| 1998 | 2,374 | 3,479 | 5,629 | 4,130 | 100 | 50 | - |
| 1999 | 2,500 | 3,659 | 6,014 | 4,731 | 100 | 61 | - |
| 2000 | 2,699 | 3,890 | 5,819 | 5,210 | 100 | 65 | - |
| 2001 | 2,669 | 4,121 | 5,905 | 5,363 | 100 | 65 | - |
| 2002(a) | 2,754 | 4,412 | 6,332 | 5,555 | 100 | 63 | - |
| 2003(a) | 2,897 | 4,833 | 5,626 | 5,729 | 100 | 59 | - |
| 2004(a) | 2,870 | 5,116 | 5,562 | 5,766 | 100 | 57 | - |
| 2005(a) | 2,879 | 5,654 | 5,722 | 5,797 | 100 | 52 | - |

\# Legislated plan amendments.
(a) Actuarial assumptions and/or methods revised.

## Historical Comparison <br> 1996 FUND <br> Actuarial Accrued Liability - Percent Funded

| June 30 | Computed Actuarial Accrued Liability |  |  | Valuation <br> Assets | Portion of Accrued Liability Covered by Assets |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (1) <br> Member Contr. | (2) <br> Retired <br> Members | (3) <br> Present Members (Employer-Financed Portion) |  |  |  |  |
|  |  |  | (\$ in Millions) |  | (1) | (2) | (3) |
| 1996 | \$ 14 | \$ 0 | \$ 33 | \$ 21 | 100\% | 100\% | 21\% |
| 1997(a) | 46 | 0 | 130 | 72 | 100 | 100 | 20 |
| 1998 | 74 | 3 | 222 | 136 | 100 | 100 | 27 |
| 1999 | 126 | 4 | 369 | 240 | 100 | 100 | 30 |
| 2000 | 195 | 10 | 502 | 368 | 100 | 100 | 33 |
| 2001 | 211 | 12 | 605 | 447 | 100 | 100 | 37 |
| 2002(a) | 291 | 17 | 858 | 621 | 100 | 100 | 36 |
| 2003(a) | 382 | 108 | 903 | 826 | 100 | 100 | 37 |
| 2004(a) | 449 | 149 | 1,051 | 1,039 | 100 | 100 | 42 |
| 2005(a) | 527 | 220 | 1,264 | 1,269 | 100 | 100 | 41 |

PRE-1996 FUND

| Computed | Actuarial <br> Accrued <br> Liability* | Valuation <br> Assets | Unfunded <br> Actuarial <br> Accrued <br> Liabilit <br> (UAAL) |
| :--- | :---: | ---: | :---: |
| 1975\#(a) | $\$ 1,570$ | $\$ 312$ | $\$ 1,258$ |
| $1977 \#$ | 2,145 | 375 | 1,770 |
| $1979 \#(a)$ | 2,582 | 466 | 2,116 |
| 1980 | 2,843 | 539 | 2,304 |
| 1981 | 2,957 | 601 | 2,356 |
| $1983(a)$ | 3,338 | 765 | 2,573 |
| 1985 | 4,023 | 1,073 | 2,950 |
| 1987 | 4,837 | 1,401 | 3,436 |
| $1989 \#$ | 6,205 | 1,707 | 4,498 |
| 1991 | 7,182 | 2,161 | 5,021 |
| $1992(a)$ | 7,949 | 2,376 | 5,573 |
| 1993 | 8,508 | 2,592 | 5,916 |
| 1994 | 9,087 | 2,809 | 6,279 |
| 1995 | 9,675 | 2,984 | 6,691 |
| 1996 | 10,283 | 3,242 | 7,041 |
| $1997(a)$ | 10,868 | 3,678 | 7,190 |
| 1998 | 11,481 | 4,130 | 7,351 |
| 1999 | 12,173 | 4,731 | 7,442 |
| 2000 | 12,409 | 5,210 | 7,199 |
| 2001 | 12,696 | 5,363 | 7,332 |
| $2002(a)$ | 13,498 | 5,555 | 7,942 |
| $2003(a)$ | 13,355 | 5,729 | 7,626 |
| $2004(a)$ | 13,549 | 5,766 | 7,783 |
| $2005(a)$ | 14,254 | 5,797 | 8,457 |
|  |  |  |  |

## 1996 FUND

| Computed | Actuarial <br> Accrued <br> Liability* | Valuation <br> Assets | Unfunded <br> Actuarial <br> Accrued <br> Liability <br> (UAAL) |
| :--- | ---: | ---: | ---: |
| 1996 | $\$ 48$ | $\$ 21$ | $\$ 27$ |
| $1997(a)$ | 176 | 72 | 104 |
| 1998 | 298 | 136 | 162 |
| 1999 | 498 | 240 | 258 |
| 2000 | 706 | 368 | 338 |
| 2001 | 828 | 447 | 381 |
| $2002(a)$ | 1,167 | 621 | 546 |
| 2003(a) | 1,392 | 826 | 567 |
| 2004(a) | 1,649 | 1,039 | 611 |
| 2005(a) | 2,011 | 1,269 | 742 |

\# Legislated plan amendments.
(a) Actuarial assumptions and/or methods revised.

* Including annuity reserve.

The presence of unfunded actuarial accrued liability in the 1996 Fund reflects the inclusion of transfers from the Pre-1996 Fund with prior service credit.

# Retired Members and Beneficiaries Monthly Allowances and Related Liability Historical Comparison 

Pre-1996 Fund

| Valuation <br> June 30 | Monthly Allowances Being Paid |  |  |  | Computed Liability |  | Reserves <br> Available for <br> Retired Members | Ratio of Reserves to Liability |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Avg. Total |  |  |  |  |
|  | Number | Annuities | Pensions | Allowances | Annuities \# | Pensions |  |  |
| 1976* | 19,961 | \$ 713,332 | \$ 4,949,716 | \$ 284 | \$ 90,519,552 | \$ 430,998,792 | \$ 103,417,581 | 19.8 \% |
| 1977 | 20,670 | 767,214 | 5,419,783 | 299 | 81,192,972 | 553,129,812 | 109,541,561 | 17.3 |
| 1978 | 21,312 | 821,780 | 5,981,203 | 319 | 87,002,688 | 608,034,852 | 122,903,169 | 17.7 |
| 1979 | 21,808 | 875,217 | 6,478,769 | 337 | 92,554,872 | 684,265,584 | 138,791,199 | 17.9 |
| 1980 | 22,255 | 933,253 | 7,609,102 | 384 | 98,744,304 | 739,477,692 | 152,227,411 | 18.2 |
| 1981 | 22,738 | 1,003,764 | 7,891,508 | 391 | 106,525,692 | 778,993,680 | 178,126,912 | 20.1 |
| 1982 | 23,261 | 1,086,088 | 8,656,992 | 419 | 109,389,360 | 853,368,564 | 210,986,498 | 21.9 |
| 1983* | 23,631 | 1,167,337 | 9,576,598 | 455 | 121,488,456 | 921,241,128 | 220,447,081 | 21.1 |
| 1984 | 24,042 | 1,270,621 | 10,152,389 | 475 | 132,872,688 | 969,470,076 | 267,364,320 | 24.3 |
| 1985 | 24,496 | 1,412,942 | 10,989,033 | 506 | 149,309,064 | 1,049,064,600 | 360,036,868 | 30.0 |
| 1986 | 24,954 | 1,580,585 | 11,848,715 | 538 | 168,855,576 | 1,127,083,092 | 423,496,495 | 32.7 |
| 1987 | 25,492 | 1,771,901 | 12,705,712 | 568 | 191,274,096 | 1,214,737,224 | 468,533,788 | 33.3 |
| 1988 | 25,849 | 1,954,326 | 13,521,271 | 599 | 212,323,404 | 1,295,323,680 | 525,277,956 | 34.8 |
| 1989 | 26,173 | 2,158,461 | 14,387,419 | 632 | 235,879,716 | 1,387,778,748 | 575,176,619 | 35.4 |
| 1990 | 26,664 | 2,448,268 | 15,649,770 | 679 | 270,612,204 | 1,521,301,656 | 664,922,515 | 37.1 |
| 1991 | 27,177 | 2,729,359 | 15,498,308 | 671 | 300,739,500 | 1,552,581,216 | 787,869,959 | 42.5 |
| 1992* | 27,759 | 3,006,489 | 16,441,198 | 701 | 341,941,104 | 1,717,495,500 | 855,640,166 | 41.5 |
| 1993 | 28,194 | 3,439,687 | 17,180,701 | 731 | 469,421,977 | 1,820,905,044 | 927,804,051 | 41.0 |
| 1994 | 28,677 | 3,695,040 | 18,563,890 | 776 | 499,429,500 | 1,983,402,204 | 996,033,842 | 40.1 |
| 1995 | 29,364 | 3,955,212 | 20,228,163 | 824 | 534,973,912 | 2,181,300,588 | 1,054,045,397 | 38.8 |
| 1996 | 30,120 | 4,212,455 | 22,081,911 | 873 | 564,310,332 | 2,404,081,944 | 1,172,253,144 | 39.5 |
| 1997* | 30,657 | 4,432,010 | 23,949,443 | 926 | 590,012,474 | 2,643,637,512 | 1,490,448,302 | 46.1 |
| 1998 | 31,307 | 4,650,748 | 25,867,893 | 975 | 607,908,268 | 2,870,838,240 | 1,756,324,911 | 50.5 |
| 1999(a) | 32,018 | 4,843,545 | 27,524,587 | 1,011 | 625,058,387 | 3,034,060,036 | 2,231,076,672 | 61.0 |
| 2000 | 32,818 | 5,057,926 | 30,285,194 | 1,077 | 648,366,105 | 3,242,529,456 | 2,510,470,810 | 64.5 |
| 2001 | 33,698 | 5,231,219 | 32,544,302 | 1,121 | 618,238,221 | 3,503,121,001 | 2,694,552,158 | 65.4 |
| 2002(b)* | 34,646 | 5,444,155 | 34,613,345 | 1,156 | 610,673,717 | 3,801,054,120 | 2,801,796,282 | 63.5 |
| 2003(b)* | 35,627 | 5,639,861 | 37,411,550 | 1,208 | 641,340,982 | 4,191,479,956 | 2,832,032,640 | 58.6 |
| 2004(b) | 36,271 | 5,931,491 | 39,648,539 | 1,257 | 674,524,850 | 4,441,666,364 | 2,895,442,408 | 56.6 |
| 2005(b)* | 37,421 | 6,261,855 | 42,621,247 | 1,306 | 707,258,030 | 4,946,244,478 | 2,917,975,867 | 51.6 |

* Revised assumptions and/or methods.
\# Includes annuity reserve.
(a) The data did not include the COLA effective 7/1/99. An adjustment was made to the pension liability and projected pension payouts for valuation purposes.
(b) Liability calculations include COLA effective the following January.


## Retired Members and Beneficiaries Monthly Allowances and Related Liability Historical Comparison

## 1996 FUND

| Valuation <br> June 30 | Monthly Allowances Being Paid |  |  |  | Computed Liability |  | Reserves Available for Retired Members | Ratio of Reserves to Liability |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number | Annuities | Pensions | Avg. Total Allowances |  |  |  |  |
| 1996 | 1 | \$ 334 | \$ 1,727 | \$2,061 | \$ 55,108 | \$ 248,376 | \$ 303,484 | 100.0\% |
| 1997* | 1 | 334 | 1,762 | 2,096 | 133,846 | 252,564 | 386,410 | 100.0 |
| 1998 | 18 | 2,257 | 16,494 | 1,042 | 431,846 | 2,219,496 | 2,703,524 | 100.0 |
| 1999 | 30 | 3,311 | 28,760 | 1,069 | 498,774 | 3,404,460 | 3,903,234 | 100.0 |
| 2000 | 60 | 7,460 | 62,532 | 1,167 | 1,126,062 | 7,553,052 | 8,679,114 | 100.0 |
| 2001 | 85 | 8,169 | 90,677 | 1,163 | 1,138,375 | 10,942,426 | 13,070,250 | 108.2 |
| 2002(a)* | 108 | 13,328 | 125,194 | 1,283 | 1,771,082 | 15,567,573 | 17,656,813 | 101.8 |
| 2003(a)* | 608 | 93,526 | 777,095 | 1,432 | 12,019,058 | 95,665,053 | 25,007,521 | 23.2 |
| 2004(a) | 797 | 128,231 | 1,078,437 | 1,514 | 16,510,645 | 132,378,472 | 109,421,034 | 73.5 |
| 2005(a)* | 1,091 | 172,184 | 1,543,131 | 1,572 | 22,236,208 | 197,485,328 | 146,201,342 | 66.5 |

* Revised assumptions and/or methods.
\# Includes annuity reserve.
(a) Liability calculations include COLA effective the following January.


## RETIRED MEMBERS AND BENEFICIARIES RECEIVING BENEFITS



Total Annual Retirement Allowances Being Paid


| Pre-1996 Fund |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Date June 30 | Active <br> Members | $\begin{gathered} \text { Payroll } \\ (+\mathbf{0 0 0}) \end{gathered}$ | Age | Service | Salary | Annual Increase |
| 1975 | 63,932 | \$ 749,200 | 38.7 yrs. | 10.9 yrs. | \$11,719 |  |
| 1977 | 65,573 | 891,780 | 39.0 | 11.2 | 13,600 | 7.7\% |
| 1979 | 66,523 | 1,024,888 | 39.4 | 11.5 | 15,406 | 6.4 |
| 1980 | 66,575 | 1,107,699 | 39.7 | 11.9 | 16,638 | 8.0 |
| 1981 | 65,283 | 1,194,856 | 40.0 | 12.2 | 18,303 | 10.0 |
| 1983 | 64,280 | 1,350,061 | 41.1 | 13.3 | 21,003 | 7.1 |
| 1985 | 62,932 | 1,519,887 | 41.5 | 14.2 | 24,151 | 7.2 |
| 1987 | 64,157 | 1,751,709 | 42.0 | 14.5 | 27,303 | 6.3 |
| 1989 | 65,986 | 2,044,797 | 42.6 | 14.9 | 30,988 | 6.5 |
| 1991 | 63,373 | 2,278,715 | 43.0 | 15.4 | 35,957 | 7.7 |
| 1992 | 63,980 | 2,416,263 | 43.8 | 16.0 | 37,766 | 5.0 |
| 1993 | 64,594 | 2,536,165 | 44.0 | 16.1 | 39,263 | 4.0 |
| 1994 | 65,209 | 2,614,915 | 44.1 | 16.2 | 40,101 | 2.1 |
| 1995 | 66,542 | 2,728,811 | 44.2 | 16.2 | 41,009 | 2.3 |
| 1996 | 70,183 | 2,805,823 | 44.2 | 15.7 | 39,979 | (2.5) |
| 1997 | 63,520 | 2,739,436 | 45.4 | 16.9 | 43,127 | 7.9 |
| 1998 | 59,030 | 2,699,183 | 46.4 | 18.0 | 45,726 | 6.0 |
| 1999 | 56,560 | 2,755,489 | 47.4 | 19.3 | 48,718 | 6.5 |
| 2000 | 52,920 | 2,561,533 | 48.2 | 20.1 | 48,404 | (0.6) |
| 2001 | 50,802 | 2,564,451 | 48.7 | 20.7 | 50,479 | 4.3 |
| 2002 | 47,510 | 2,604,956 | 49.4 | 21.5 | 54,830 | 8.6 |
| 2003 | 43,705 | 2,448,271 | 49.6 | 21.7 | 56,018 | 2.2 |
| 2004 | 41,510 | 2,384,480 | 50.1 | 22.2 | 57,444 | 2.5 |
| 2005 | 39,097 | 2,305,726 | 50.6 | 22.7 | 58,974 | 2.7 |

## 1996 FUND

| Valuation Date June 30 | No. of <br> Active <br> Members | $\begin{gathered} \text { Valuation } \\ \text { Payroll } \\ (+000) \\ \hline \end{gathered}$ | Averages |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Age | Service | Salary | Annual Increase |
| 1996 | 8,683 | \$ 72,506 | 32.2 yrs. | 1.3 yrs. | \$ 8,350 |  |
| 1997 | 20,686 | 245,168 | 33.0 | 1.8 | 11,852 | 41.9\% |
| 1998 | 25,634 | 395,758 | 33.6 | 2.2 | 15,439 | 30.3 |
| 1999 | 21,185 * | 538,837 | 35.3 | 4.0 | 25,435 | 64.7 |
| 2000 | 24,950 | 631,072 | 36.4 | 4.7 | 25,293 | (0.6) |
| 2001 | 24,846 | 754,426 | 36.3 | 5.5 | 30,364 | 20.0 |
| 2002 | 27,873 | 1,004,515 | 36.7 | 6.1 | 36,039 | 18.7 |
| 2003 | 29,936 | 1,136,864 | 37.0 | 6.5 | 37,976 | 5.4 |
| 2004 | 32,000 | 1,267,173 | 37.3 | 6.9 | 39,599 | 4.3 |
| 2005 | 34,826 | 1,428,604 | 37.5 | 7.2 | 41,021 | 3.6 |

* Excludes non-degreed substitute teachers (who had previously been included in the data but who do not participate in the Fund).


## Active Members Per Retired Life



Annual Retirement Allowances as a Percent of Valuation Payroll


## SECTION C


Population Projections

## Closed Group Actuarial Projections

The schedules on the following pages for the Pre-1996 Fund were produced by means of an actuarial projection.

Whereas actuarial valuations provide a snapshot of the Retirement Fund as of a given date, actuarial projections provide a moving picture of Retirement Fund activities. The projected active and retired groups are developed from year to year by applying assumptions regarding pre-retirement withdrawal from service, retirements, deaths, and disabilities. Projected information regarding plan activity produces an expected future benefit payout stream.

Projection results are useful in demonstrating changing relationships among key elements affecting system financial activity. For example: how benefits payable and assets will grow in future decades. Projections are not predictions of specific future events and do not provide numeric precision in absolute terms. For instance, benefits projected to occur 10 years in the future will not be exact (except by coincidence), but understanding the changed relationships over a period of years can be very useful.

PRE-1996 FUND
Active and Retired Member Closed Group Projection BASED ON JUNE 30, 2005 VALUATION DATA AND AsSUMPTIONS (\$ IN MILLIONS)

| Year | Active Members |  | Retired Members |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Number | Payroll | Number | State-Financed <br> Benefits |
| 2006 | 36,690 | $\$ 2,283.0$ | 39,136 | $\$ 549.1$ |
| 2007 | 34,315 | $2,248.6$ | 40,329 | 581.2 |
| 2008 | 31,922 | $2,200.3$ | 41,576 | 615.5 |
| 2009 | 29,512 | $2,137.8$ | 42,846 | 653.1 |
| 2010 | 27,113 | $2,062.5$ | 44,117 | 694.3 |
| 2011 | 24,767 | $1,977.3$ | 45,324 | 737.7 |
| 2012 | 22,486 | $1,882.7$ | 46,536 | 785.5 |
| 2013 | 20,296 | $1,780.6$ | 47,659 | 835.3 |
| 2014 | 18,245 | $1,676.0$ | 48,643 | 884.2 |
| 2015 | 16,320 | $1,568.7$ | 49,443 | 931.9 |
| 2016 | 14,533 | $1,460.9$ | 50,088 | 977.9 |
| 2017 | 12,872 | $1,352.4$ | 50,611 | $1,022.5$ |
| 2018 | 11,351 | $1,246.0$ | 50,922 | $1,063.7$ |
| 2019 | 9,974 | $1,143.6$ | 51,012 | $1,100.7$ |
| 2020 | 8,732 | $1,045.6$ | 50,936 | $1,133.6$ |
| 2021 | 7,619 | 952.6 | 50,665 | $1,162.4$ |
| 2022 | 6,617 | 863.5 | 50,254 | $1,187.1$ |
| 2023 | 5,727 | 780.0 | 49,668 | $1,207.0$ |
| 2024 | 4,932 | 701.0 | 48,923 | $1,222.3$ |
| 2025 | 4,216 | 625.1 | 48,042 | $1,233.5$ |
| 2026 | 3,576 | 553.0 | 47,036 | $1,240.4$ |
| 2027 | 3,002 | 484.2 | 45,935 | $1,243.6$ |
| 2028 | 2,504 | 421.2 | 44,729 | $1,242.1$ |
| 2029 | 2,076 | 364.0 | 43,415 | $1,235.9$ |
| 2030 | 1,705 | 311.7 | 42,014 | $1,225.6$ |
| 2031 | 1,392 | 265.2 | 40,492 | $1,210.4$ |
| 2032 | 1,122 | 222.7 | 38,872 | $1,191.0$ |
| 2033 | 897 | 185.3 | 37,168 | $1,167.0$ |
| 2034 | 708 | 152.4 | 35,409 | $1,138.9$ |
| 2035 | 551 | 123.4 | 33,618 | $1,107.3$ |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

Note: Projections are intended to demonstrate the pattern of future activities and should not be viewed as a prediction of specific dollar amounts in any year.

## Pre-1996 Fund

Active and Retired Member Closed Group Projection Based on June 30, 2005 Valuation Data and Assumptions (\$ IN MILLIONS)

## - Continued -

| Year | Active Members |  | Retired Members |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Number | Payroll | Number | State-Financed <br> Benefits |
| 2036 | 426 | $\$ 99.1$ | 31,811 | $\$ 1,072.3$ |
| 2037 | 323 | 78.3 | 29,981 | $1,034.4$ |
| 2038 | 244 | 61.4 | 28,136 | 993.6 |
| 2039 | 182 | 47.8 | 26,291 | 950.6 |
| 2040 | 132 | 36.0 | 24,480 | 906.2 |
| 2041 | 95 | 26.8 | 22,708 | 860.4 |
| 2042 | 67 | 19.6 | 20,983 | 813.7 |
| 2043 | 48 | 14.5 | 19,315 | 766.3 |
| 2044 | 34 | 10.9 | 17,714 | 718.7 |
| 2045 | 24 | 8.1 | 16,186 | 671.7 |
| 2046 | 17 | 5.8 | 14,740 |  |
| 2047 | 11 | 4.0 | 13,372 | 625.5 |
| 2048 | 7 | 2.6 | 12,086 | 580.5 |
| 2049 | 4 | 1.6 | 10,885 | 536.7 |
| 2050 | 2 | 0.9 | 9,769 | 494.5 |
| 2051 |  |  |  | 453.8 |
| 2052 | 1 | 0.4 | 8,737 |  |
| 2053 | 0 | 0.1 | 7,787 | 415.0 |
| 2054 | 0 | 0.0 | 6,915 | 378.0 |
| 2055 | 0 | 0.0 | 6,118 | 343.0 |

Note: Projections are intended to demonstrate the pattern of future activities and should not be viewed as a prediction of specific dollar amounts in any year.

## SECTION D

# Summary of Benefit Provisions <br> (SUMMARY UPDATED TO JUNE 30, 2005) 

## Regular Retirement (no reduction factor for age)

Eligibility - Age 65 with 10 years service or age 60 with 15 or more years of service or if age is at least 55 and the sum of age plus credited service is 85 or more.
Mandatory Retirement Age - None.
Annual Amount - State pension equal to total service times 1.l\% of Average Annual Compensation.

Type of Final Average Salary - Average of highest 5 years of compensation. Years do not need to be continuous.

## EARLY RETIREMENT (AGE REDUCTION FACTOR USED)

Eligibility - Age 50 with 15 or more years of service.
Annual Amount - State pension is computed as regular retirement benefit, but reduced for each month between age at early retirement and attainment of age 65. The age reduction factor is calculated as the sum of the following:

- $1 / 10$ of $1 \%$ for all months from age 60 to 65 .
- $\quad 5 / 12$ of $1 \%$ for months from age at early retirement to 60 .


## Deferred Retirement (VESTED benefit)

Eligibility - 10 years of service. Benefit commences at regular or early retirement eligibility.
Annual Amount - Computed as a regular retirement benefit with state pension based on service and Average Annual Compensation at termination.

## DISABILITY RETIREMENT

## Classroom disability benefit:

Eligibility - 5 years of service.
Annual Amount - $\$ 125$ per month plus $\$ 5$ per month for each year of service credit over 5 years.

## Alternative disability benefit:

Eligibility - 5 years of service and determined to be disabled by the Social Security Administration. Annual verification of Social Security disability is required.
Annual Amount - Computed as a regular retirement benefit using creditable service to the date of disability and without reduction for early retirement. The minimum benefit is $\$ 100$ per month.

# Summary of Benefit Provisions (CONTINUED) (SUMMARY UPDATED TO JUNE 30, 2005) 

## DEATH BEFORE RETIREMENT

Eligibility - 15 years of service. Spouse to whom member had been married for 2 or more years is automatically eligible, or a dependent may be designated as beneficiary.

Annual Amount - Computed as regular retirement benefit but reduced in accordance with a 100\% joint and survivor election.

## Benefit Increases After Retirement

No automatic increases after retirement are provided. Periodically, unscheduled increases have been made.

## Member Contributions

All Fund members are required by state law to contribute $3 \%$ of salary contributions to their Annuity Savings Account. These 3\% contributions are "picked up" by the employer and contributed on a pre-tax basis on behalf of the employee. Extra voluntary contributions by the member are also possible but on a post-tax basis. At retirement, there are six alternatives for receiving the proceeds of this account including lump sums, full and partial rollovers, full and partial annuitization of the balance and deferred distribution.

## Forms of Benefit Payment (State Pension)

The normal form of benefit payment (Option A-1) is a single life annuity with a 5 -year certain period. There are 5 optional forms of payment available as listed below. Additionally, members retiring between ages 50 and 62 may integrate their pension benefit with their Social Security benefit by choosing Social Security Integration (Option A-4) in conjunction with the normal form or any other optional form selected. Optional forms of payment are calculated on an actuarial equivalent basis.

Option A-2: Straight Life benefit with no certain period.
Option A-3: Modified Cash Refund Annuity (operates in conjunction with the Annuity Savings Account).
Option B-1: 100\% Survivorship.
Option B-2: 66 2/3\% Survivorship.
Option B-3: 50\% Survivorship
State law provides for actuarially adjusted and recalculated benefits based on a new optional form election in the event of the death of the member's spouse after retirement. (IC 5-10.2-4-7)

## Section E



## Details of Valuation Data

# Pre-1996 Fund <br> Retired Members and Beneficiaries June 30, 2005 Monthly Benefit Amounts by Type of Benefit Being Paid 

|  |  | Monthly Amounts Being Paid |  |  |
| :--- | :--- | :--- | :--- | :--- |
| Type of Benefit | Number | Annuities | Pensions | Total |

## Age and Service

Option A-1-5 YR. CERT.
(Regular)
(With Opt. A-4)
(S.S. After 65)

Option A-2 - S.L.
(Regular)
(With Opt. A-4)

Option A-3 - CRA
(Regular)
(With Opt. A-4)
(S.S. After 65)

Option B-1-100\%JS
(Regular)
(With Opt. A-4)
(S.S. After 65)

Option B-2-67\%JS
(Regular)
(With Opt. A-4)
(S.S. After 65)

Option B-3-50\%JS
(Regular)
(With Opt. A-4)
(S.S. After 65)

Survivor Beneficiary


## (Continued)

| Type of Benefit | Number | Monthly Amounts Being Paid |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Annuities |  | Pensions |  | Total |  |
| Duty Disability (Classroom) | 51 |  | - | \$ | 15,741 | \$ | 15,741 |
| Duty Disability Totals | 51 |  | - |  | 15,741 |  | 15,741 |
| Non-Duty Disability (Regular) |  |  |  |  |  |  |  |
| Option A-1-5 YR. CERT. | 142 | \$ | 15,989 | \$ | 146,305 | \$ | 162,294 |
| Option A-2-S.L. | 75 |  | 9,478 |  | 66,004 |  | 75,482 |
| Option A-3-CRA | 20 |  | 5,094 |  | 20,137 |  | 25,231 |
| Option B-1-100\%JS | 253 |  | 27,951 |  | 239,626 |  | 267,577 |
| Option B-2-67\%JS | 20 |  | 4,244 |  | 22,497 |  | 26,741 |
| Option B-3-50\%JS | 34 |  | 4,788 |  | 31,305 |  | 36,093 |
| Non-Duty Disability Totals | 544 | \$ | 67,544 | \$ | 525,874 | \$ | 593,418 |
| Non-Duty Death (Regular) |  |  |  |  |  |  |  |
| Spouse | 1,202 |  | 78,999 |  | 756,454 |  | 835,453 |
| Non-Duty Death Totals | 1,202 | \$ | 78,999 | \$ | 756,454 | \$ | 835,453 |
| Casualty Totals | 1,797 | \$ | 146,543 | \$ | 1,298,069 | \$ | 1,444,612 |
| Total Allowances Being Paid | 37,421 | \$ | 6,261,855 |  | 42,621,247 |  | 8,883,102 |

# 1996 FUND <br> Retired Members and Beneficiaries June 30, 2005 Monthly Benefit Amounts by Type of Benefit Being Paid 

## Monthly Amounts Being Paid

|  |  | Monthly Amounts Being Paid |  |  |
| :--- | :--- | :--- | :--- | :--- |
| Type of Benefit | Number | Annuities | Pensions | Total |

## Age and Service

Option A-1-5 YR. CERT.

| (Regular) | 220 | $\$$ | 29,539 | $\$$ | 279,895 | $\$$ |
| ---: | ---: | ---: | ---: | ---: | :--- | ---: |
| (With Opt. A-4) | 51 |  | 4,075 |  | 103,957 |  |
| (S.S. After 65) | 51 |  | 8,204 |  | 72,171 |  |

Option A-2 - S.L.
(Regular)
(With Opt. A-4)
(S.S. After 65)

| (Regular) | 28 | 9,269 | 29,802 | 39,071 |
| ---: | ---: | ---: | ---: | ---: |
| (With Opt. A-4) | 3 | 1,459 | 6,533 | 7,992 |
| (S.S. After 65) | 15 | 6,276 | 19,920 | 26,196 |

Option B-1-100\%JS

| (Regular) | 254 | 46,837 | 356,959 | 403,796 |
| ---: | ---: | ---: | ---: | ---: |
| (With Opt. A-4) | 22 | 3,997 | 49,217 | 53,214 |
| (S.S. After 65) | 43 | 4,155 | 63,607 | 67,762 |
| \%JS |  |  |  |  |
| (Regular) | 62 | 5,848 | 92,621 | 98,469 |
| (With Opt. A-4) | 7 | 1,339 | 17,849 | 19,188 |
| (S.S. After 65) | 7 | 1,022 | 10,799 | 11,821 |

Option B-3-50\%JS
(Regular)
(With Opt. A-4)
(S.S. After 65)

Age and Service Totals

| 71 |  | 12,049 |  | 111,349 |  | 123,398 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 10 |  | 4,305 |  | 26,431 |  | 30,736 |
| 9 |  | 1,108 |  | 13,549 |  | 14,657 |
| 1,033 | \$ | 168,034 | \$ | 1,507,787 | \$ | ,675,821 |

# 1996 FUND <br> Retired Members and Beneficiaries June 30, 2005 Monthly Benefit Amounts by Type of Benefit Being Paid 

| Type of Benefit | Number | Monthly Amounts Being Paid |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Annuities |  | Pensions |  | Total |  |
| Duty Disability (Classroom) | 0 | \$ | 0 | \$ | 0 | \$ | 0 |
| Duty Disability Totals | 0 |  | 0 |  | 0 |  | 0 |
| Non-Duty Disability (Regular) |  |  |  |  |  |  |  |
| Option A-1-5 YR. CERT. | 10 | \$ | 431 | \$ | 4,805 | \$ | 5,236 |
| Option A-2 - S.L. | 6 |  | 108 |  | 2,826 |  | 2,934 |
| Option A-3-CRA | 1 |  | 87 |  | 313 |  | 400 |
| Option B-1-100\%JS | 19 |  | 1,786 |  | 12,429 |  | 14,215 |
| Option B-2-67\%JS | 1 |  | 403 |  | 1,176 |  | 1,579 |
| Option B-3-50\%JS | 2 |  | 227 |  | 995 |  | 1,222 |
| Non-Duty Disability Totals | 39 | \$ | 3,042 | \$ | 22,544 | \$ | 25,586 |
| Non-Duty Death (Regular) |  |  |  |  |  |  |  |
| Spouse | 19 |  | 1,108 |  | 12,800 |  | 13,908 |
| Non-Duty Death Totals | 19 | \$ | 1,108 | \$ | 12,800 | \$ | 13,908 |
| Casualty Totals | 58 | \$ | 4,150 | \$ | 35,344 | \$ | 39,494 |
| Total Allowances Being Paid | $\underline{\underline{1,091}}$ |  | 2,184 |  | 543,131 |  | 715,315 |


| Year of Retirement | Number | Monthly Pensions |  |
| :---: | :---: | :---: | :---: |
|  |  | Total | Average |
| Before 1970 | 440 | \$ 171,962 | \$ 391 |
| 1970 | 116 | 50,514 | 436 |
| 1971 | 164 | 79,330 | 484 |
| 1972 | 199 | 102,987 | 518 |
| 1973 | 260 | 143,025 | 550 |
| 1974 | 314 | 175,082 | 558 |
| 1975 | 293 | 165,158 | 564 |
| 1976 | 357 | 212,046 | 594 |
| 1977 | 396 | 239,275 | 604 |
| 1978 | 465 | 289,949 | 624 |
| 1979 | 536 | 338,248 | 631 |
| 1980 | 612 | 377,610 | 617 |
| 1981 | 607 | 377,886 | 623 |
| 1982 | 598 | 380,669 | 637 |
| 1983 | 666 | 428,461 | 643 |
| 1984 | 734 | 481,285 | 656 |
| 1985 | 1,045 | 732,902 | 701 |
| 1986 | 850 | 610,762 | 719 |
| 1987 | 987 | 754,009 | 764 |
| 1988 | 1,088 | 886,709 | 815 |
| 1989 | 863 | 729,257 | 845 |
| 1990 | 1,329 | 1,276,791 | 961 |
| 1991 | 1,284 | 1,320,083 | 1,028 |
| 1992 | 1,153 | 1,227,537 | 1,065 |
| 1993 | 1,203 | 1,390,312 | 1,156 |
| 1994 | 1,338 | 1,565,354 | 1,170 |
| 1995 | 1,670 | 2,031,891 | 1,217 |
| 1996 | 1,650 | 2,060,977 | 1,249 |
| 1997 | 1,433 | 1,766,520 | 1,233 |
| 1998 | 1,783 | 2,181,325 | 1,223 |
| 1999 | 1,630 | 2,160,392 | 1,325 |
| 2000 | 1,895 | 2,696,548 | 1,423 |
| 2001 | 1,886 | 2,872,536 | 1,523 |
| 2002 | 2,156 | 3,357,015 | 1,557 |
| 2003 | 1,847 | 2,978,344 | 1,613 |
| 2004 | 2,219 | 3,677,981 | 1,658 |
| 2005 | 1,355 | 2,330,515 | 1,720 |
| TOTALS | 37,421 | \$42,621,247 | \$1,139 |

# 1996 FUND <br> Retired Members and Beneficiaries June 30, 2005 TABULATED BY YEAR OF RETIREMENT 

| Year of Retirement | Number | Monthly Pensions |  |
| :---: | :---: | :---: | :---: |
|  |  | Total | Average |
| 1974 | 1 | \$ 341 | \$ 341 |
| 1975 | 1 | 266 | 266 |
| 1981 | 3 | 1,717 | 572 |
| 1982 | 1 | 865 | 865 |
| 1985 | 1 | 887 | 887 |
| 1986 | 2 | 1,443 | 721 |
| 1987 | 6 | 4,474 | 746 |
| 1988 | 6 | 4,487 | 748 |
| 1989 | 6 | 4,190 | 698 |
| 1990 | 11 | 9,499 | 864 |
| 1991 | 14 | 11,171 | 798 |
| 1992 | 11 | 11,851 | 1,077 |
| 1993 | 11 | 9,980 | 907 |
| 1994 | 16 | 15,401 | 963 |
| 1995 | 23 | 25,956 | 1,129 |
| 1996 | 33 | 41,064 | 1,244 |
| 1997 | 31 | 36,236 | 1,169 |
| 1998 | 43 | 50,142 | 1,166 |
| 1999 | 51 | 65,523 | 1,285 |
| 2000 | 75 | 89,768 | 1,197 |
| 2001 | 100 | 138,756 | 1,388 |
| 2002 | 141 | 219,025 | 1,553 |
| 2003 | 193 | 314,178 | 1,628 |
| 2004 | 184 | 271,125 | 1,474 |
| 2005 | 127 | 214,784 | 1,691 |
| TOTALS | 1,091 | \$1,543,131 | \$1,414 |

This schedule may include individuals who retired from the Pre-1996 Fund and returned to work, and then retired again (from the 1996 Fund).

## Pre-1996 Fund <br> Monthly Retirement Allowances By Attained Age As of June 30, 2005

| Attained Ages | Men |  | Women |  | Totals |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number | Monthly Allowances | Number | Monthly Allowances | Number | Monthly Allowances |
| UNDER 20 | 2 | \$ 632 | 9 | \$ 4,001 | 11 | \$ 4,633 |
| 20-24 | 1 | 899 | 3 | 2,172 | 4 | 3,071 |
| 25-29 | - | - | 3 | 4,064 | 3 | 4,064 |
| 30-34 | 6 | 5,357 | 3 | 1,252 | 9 | 6,609 |
| 35-39 | 5 | 3,854 | 6 | 4,928 | 11 | 8,782 |
| 40-44 | 15 | 13,431 | 19 | 12,316 | 34 | 25,747 |
| 45-49 | 27 | 16,173 | 53 | 33,512 | 80 | 49,685 |
| 50-54 | 106 | 68,286 | 209 | 157,233 | 315 | 225,519 |
| 55-59 | 1,312 | 2,467,222 | 2,150 | 3,715,567 | 3,462 | 6,182,789 |
| 60-64 | 2,603 | 4,560,754 | 4,080 | 6,089,159 | 6,683 | 10,649,913 |
| 65-69 | 2,802 | 4,677,849 | 4,085 | 5,421,220 | 6,887 | 10,099,069 |
| 70-74 | 2,553 | 3,926,728 | 3,531 | 4,300,482 | 6,084 | 8,227,210 |
| 75-79 | 2,002 | 2,724,353 | 3,352 | 3,421,125 | 5,354 | 6,145,478 |
| 80-84 | 1,299 | 1,479,268 | 2,539 | 2,135,772 | 3,838 | 3,615,040 |
| 85-89 | 571 | 574,208 | 2,143 | 1,588,518 | 2,714 | 2,162,726 |
| 90-94 | 213 | 205,330 | 1,172 | 854,490 | 1,385 | 1,059,820 |
| 95-99 | 38 | 39,191 | 434 | 317,430 | 472 | 356,621 |
| Over 100 | 2 | 3,007 | 73 | 53,319 | 75 | 56,326 |
| Totals | 13,557 | \$20,766,542 | 23,864 | \$28,116,560 | 37,421 | \$48,883,102 |

## 1996 FUND <br> Monthly Retirement Allowances By Attained Age As of June 30, 2005

| Attained Ages | Men |  | Women |  | Totals |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number | Monthly Allowances | Number | Monthly Allowances | Number | Monthly Allowances |
| UNDER 20 | - | - | - | - | - | - |
| 20-24 | - | - | 1 | \$ 757 | 1 | \$ 757 |
| 25-29 | - | - | - | - | - | - |
| 30-34 | - | - | - | - | - | - |
| 35-39 | 1 | \$ 353 | 2 | 479 | 3 | 832 |
| 40-44 | 1 | 607 | 3 | 1,668 | 4 | 2,275 |
| 45-49 | 2 | 1,091 | 6 | 2,996 | 8 | 4,087 |
| 50-54 | 9 | 7,299 | 22 | 13,239 | 31 | 20,538 |
| 55-59 | 131 | 263,453 | 149 | 252,093 | 280 | 515,546 |
| 60-64 | 166 | 326,534 | 204 | 321,292 | 370 | 647,826 |
| 65-69 | 99 | 164,688 | 137 | 170,211 | 236 | 334,899 |
| 70-74 | 46 | 71,334 | 53 | 53,914 | 99 | 125,248 |
| 75-79 | 13 | 17,823 | 24 | 20,700 | 37 | 38,523 |
| 80-84 | 11 | 13,272 | 8 | 7,838 | 19 | 21,110 |
| 85-89 | 2 | 3,074 | - | - | 2 | 3,074 |
| 90-94 | - | - | 1 | 600 | 1 | 600 |
| 95-99 | - | - | - | - | - | - |
| Over 100 | - | - | - | - | - | - |
| Totals | 481 | \$869,528 | 610 | \$845,787 | 1,091 | \$1,715,315 |

## Pre-1996 Fund Inactive Vested Members As OF June 30, 2005 <br> By Attained Age and Years of Service

| $\begin{gathered} \hline \hline \text { Attained } \\ \text { Age } \\ \hline \end{gathered}$ | Years of Service to Valuation Date |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30+ | Total |
| 30-34 |  |  | 14 |  |  |  |  | 14 |
| 35-39 |  |  | 165 | 7 | 1 |  |  | 173 |
| 40-44 |  |  | 274 | 97 | 12 |  |  | 383 |
| 45-49 |  |  | 243 | 157 | 69 | 15 | 1 | 485 |
| 50-54 |  |  | 378 | 222 | 174 | 103 | 51 | 928 |
| 55-59 |  |  | 431 | 329 | 206 | 143 | 68 | 1,177 |
| 60 |  |  | 63 | 32 | 22 | 6 | 9 | 132 |
| 61 |  |  | 77 | 28 | 12 | 6 | 8 | 131 |
| 62 |  |  | 80 | 15 | 7 | 6 | 7 | 115 |
| 63 |  |  | 69 | 17 | 8 | 6 | 4 | 104 |
| 64 |  |  | 43 | 11 | 4 | 8 | 5 | 71 |
| 65 |  |  | 27 | 13 | 5 | 2 | 4 | 51 |
| 66 |  |  | 14 | 14 | 5 | 1 | 1 | 35 |
| 67 |  |  | 19 | 7 | 2 | 1 | 2 | 31 |
| 68 |  |  | 15 | 10 | 5 | 8 | 2 | 40 |
| 69 |  |  | 8 | 10 | 7 | 2 | 1 | 28 |
| 70 |  |  | 11 | 6 | 3 | 3 | 2 | 25 |
| 71 |  |  | 11 | 7 | 4 | 1 | 3 | 26 |
| 72 |  |  | 15 | 5 | 2 | 3 | 1 | 26 |
| 73 |  |  | 7 | 9 | 7 | 4 | 4 | 31 |
| 74 |  |  | 15 | 8 | 5 | 2 | 5 | 35 |
| 75 |  |  | 7 | 10 | 8 | 4 | 3 | 32 |
| 76 |  |  | 6 | 6 | 5 | 1 | 7 | 25 |
| 77 |  |  | 4 | 6 | 9 | 3 | 4 | 26 |
| 78 |  |  | 10 | 6 | 9 | 5 | 5 | 35 |
| 79 \& Over |  |  | 62 | 41 | 36 | 31 | 32 | 202 |
| Totals | - | - | 2,068 | 1,073 | 627 | 364 | 229 | 4,361 |

Average Age: $\quad 56.0$ years
Average Service: 16.9 years

## 1996 Fund InActive Vested Members AS OF JUNE 30, 2005 By Attained Age and Years of Service

| Attained | Years of Service to Valuation Date |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Age | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30+ | Total |
| 30-34 |  |  | 13 |  |  |  |  | 13 |
| 35-39 |  |  | 90 | 2 |  |  |  | 92 |
| 40-44 |  |  | 80 | 31 | 5 |  |  | 116 |
| 45-49 |  |  | 89 | 38 | 18 | 2 |  | 147 |
| 50-54 |  |  | 94 | 57 | 36 | 16 | 6 | 209 |
| 55-59 |  |  | 97 | 47 | 33 | 14 | 8 | 199 |
| 60 |  |  | 11 | 6 | 3 | 2 |  | 22 |
| 61 |  |  | 15 | 3 | 3 |  | 2 | 23 |
| 62 |  |  | 17 | 3 | 1 |  |  | 21 |
| 63 |  |  | 8 | 2 | 1 | 1 | 1 | 13 |
| 64 |  |  | 12 | 3 |  |  |  | 15 |
| 65 |  |  | 2 |  |  |  | 1 | 3 |
| 66 |  |  | 2 |  |  |  |  | 2 |
| 67 |  |  | 1 |  | 1 |  |  | 2 |
| 68 |  |  | 1 |  |  |  |  | 1 |
| 70 |  |  | 1 |  |  |  |  | 1 |
| 72 |  |  |  | 1 |  |  |  | 1 |
| 76 |  |  | 1 |  |  |  |  | 1 |
| 78 |  |  |  |  |  |  | 1 | 1 |
| Totals | - | - | 534 | 193 | 101 | 35 | 19 | 882 |

Average Age: $\quad 50.5$ years
Average Service: 15.2 years

## Pre-1996 Fund Active Members <br> AS OF June 30, 2005 <br> By Attained Age and Years of Service

| Attained Age | Years of Service to Valuation Date |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30+ | Total |
| 15-19 | 1 |  |  |  |  |  |  | 1 |
| 20-24 | 119 |  |  |  |  |  |  | 119 |
| 25-29 | 409 | 90 |  |  |  |  |  | 499 |
| 30-34 | 167 | 322 | 516 | 1 |  |  |  | 1,006 |
| 35-39 | 122 | 203 | 1,977 | 660 | 2 |  |  | 2,964 |
| 40-44 | 100 | 125 | 802 | 2,160 | 871 | 2 |  | 4,060 |
| 45-49 | 93 | 140 | 731 | 1,279 | 2,268 | 1,272 | 4 | 5,787 |
| 50-54 | 81 | 140 | 870 | 1,328 | 1,399 | 4,072 | 2,443 | 10,333 |
| 55-59 | 48 | 88 | 544 | 1,193 | 1,400 | 1,636 | 5,423 | 10,332 |
| 60 | 8 | 11 | 35 | 135 | 146 | 149 | 554 | 1,038 |
| 61 | 3 | 5 | 50 | 86 | 119 | 123 | 487 | 873 |
| 62 | 2 | 7 | 37 | 52 | 87 | 96 | 356 | 637 |
| 63 | 2 | 10 | 32 | 43 | 54 | 59 | 290 | 490 |
| 64 |  | 6 | 21 | 27 | 27 | 51 | 192 | 324 |
| 65 | 3 | 6 | 10 | 15 | 24 | 22 | 119 | 199 |
| 66 | 3 | 2 | 2 | 10 | 14 | 8 | 88 | 127 |
| 67 | 2 | 1 | 3 | 8 | 8 | 6 | 65 | 93 |
| 68 | 1 | 1 | 1 | 7 | 3 | 4 | 39 | 56 |
| 69 |  | 2 | 5 | 5 | 3 | 4 | 32 | 51 |
| 70 | 2 | 1 | 2 |  | 2 | 2 | 16 | 25 |
| 71 | 3 | 3 | 2 |  | 1 | 2 | 14 | 25 |
| 72 | 1 |  | 1 |  | 1 | 1 | 8 | 12 |
| 73 |  | 1 | 1 |  |  | 1 | 5 | 8 |
| 74 | 1 | 1 | 3 | 1 |  |  | 8 | 14 |
| 75 |  |  | 1 | 1 |  |  | 3 | 5 |
| 76 | 1 | 1 |  |  |  | 1 | 2 | 5 |
| 77 |  |  |  |  |  |  |  |  |
| 78 |  |  |  | 1 |  |  | 4 | 5 |
| 79 \& Over |  | 2 |  |  |  | 2 | 5 | 9 |
| Totals | 1,172 | 1,168 | 5,646 | 7,012 | 6,429 | 7,513 | 10,157 | 39,097 |

Average Age: 50.6 years
Average Service: 22.7 years

## 1996 Fund Active Members <br> AS OF June 30, 2005 <br> By Attained Age and Years of Service

| $\begin{gathered} \hline \hline \text { Attained } \\ \text { Age } \\ \hline \end{gathered}$ | Years of Service to Valuation Date |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30+ | Total |
| 15-19 | 7 |  |  |  |  |  |  | 7 |
| 20-24 | 1,673 |  |  |  |  |  |  | 1,673 |
| 25-29 | 6,325 | 1,989 | 1 |  |  |  |  | 8,315 |
| 30-34 | 1,927 | 4,648 | 619 | 2 |  |  |  | 7,196 |
| 35-39 | 1,250 | 1,953 | 1,323 | 202 | 3 |  |  | 4,731 |
| 40-44 | 1,057 | 1,201 | 577 | 539 | 130 | 2 |  | 3,506 |
| 45-49 | 899 | 1,196 | 573 | 316 | 332 | 113 | 4 | 3,433 |
| 50-54 | 605 | 894 | 540 | 341 | 213 | 321 | 152 | 3,066 |
| 55-59 | 400 | 507 | 354 | 259 | 147 | 134 | 278 | 2,079 |
| 60 | 37 | 48 | 28 | 17 | 12 | 8 | 34 | 184 |
| 61 | 39 | 35 | 22 | 15 | 11 | 10 | 23 | 155 |
| 62 | 31 | 27 | 17 | 12 | 7 | 3 | 11 | 108 |
| 63 | 33 | 23 | 17 | 8 | 3 | 3 | 8 | 95 |
| 64 | 25 | 21 | 5 | 1 | 4 | 4 | 7 | 67 |
| 65 | 16 | 11 | 8 | 5 | 5 | 2 | 4 | 51 |
| 66 | 18 | 7 | 5 | 2 | 2 |  | 4 | 38 |
| 67 | 9 | 6 | 2 | 1 |  |  |  | 18 |
| 68 | 9 | 5 | 4 | 1 | 1 |  |  | 20 |
| 69 | 14 | 8 | 1 |  |  |  | 2 | 25 |
| 70 | 12 | 5 |  |  | 1 |  |  | 18 |
| 71 | 4 | 3 |  |  |  |  |  | 7 |
| 72 | 4 | 3 |  |  | 1 |  |  | 8 |
| 73 | 4 | 4 | 2 |  |  |  |  | 10 |
| 74 |  | 1 |  |  |  |  |  | 1 |
| 75 | 5 | 1 |  |  |  |  |  | 6 |
| 76 | 2 |  |  |  |  |  |  | 2 |
| 77 | 1 | 2 |  |  |  |  |  | 3 |
| 78 |  | 1 |  |  |  |  |  | 1 |
| 79 \& Over |  | 2 |  |  |  | 1 |  | 3 |
| Totals | 14,406 | 12,601 | 4,098 | 1,721 | 872 | 601 | 527 | 34,826 |

Average Age: 37.5 years
Average Service: $\quad 7.2$ years

## SECTION F


Disc losures Required by GASB Statements No. 25 and No. 27

## GASB STATEMENTS No. 25 AND No. 27 REQUIRED SUPPLEMENTARY INFORMATION

Under the Governmental Accounting Standards Board (GASB) Statements No. 25 and No. 27, certain information about the plan is required to be disclosed. The information presented in the required supplementary schedules was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation follows:

Valuation date
Actuarial Cost Method
Amortization method
Amortization period
Asset valuation method
Actuarial assumptions:
Investment rate of return
Projected salary increases*
*Includes wage inflation at
Cost-of-living adjustments

June 30, 2005
Entry Age Actuarial Cost Method
Level Percent of Pay Closed
29 Years
4-year smoothed market value with corridor
7.50\%
4.50\%-15.50\%
4.50\%
$0.5 \%$ compounded annually on pension portion

Membership in the plan consisted of the following at June 30, 2005, the date of the latest actuarial valuation:

|  | Totals |
| :--- | ---: |
| Retired members and beneficiaries receiving benefits | 38,512 |
| Terminated plan members entitled |  |
| $\quad$ to but not yet receiving benefits | 5,243 |
| $\quad$ Vested | 32,059 |
| $\quad$ Non-Vested | 73,923 |
| Active plan members | 149,737 |

## GASB STATEMENTS No. 25 AND No. 27 REQUIRED SUPPLEMENTARY INFORMATION

## Schedule of Funding Progress

| Actuarial Valuation Date June 30 | Actuarial Value of Assets (a) | Actuarial <br> Liability (AAL) <br> -- Entry-Age -- <br> (b) | $\begin{aligned} & \text { Unfunded } \\ & \text { AAL } \\ & \text { (UAAL) } \\ & \text { (b) - (a) } \\ & \hline \end{aligned}$ | Funded Ratio <br> (a) / (b) | Covered <br> Payroll <br> (c) | UAAL as a \% of Covered Payroll $[(\mathrm{b})-(\mathrm{a})] /(\mathrm{c})$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1996 | \$3,262,619,379 | \$ 10,330,788,316 | \$ 7,068,168,937 | 31.6 \% | \$ 2,878,329,486 | 245.6 \% |
| 1997* | 3,750,138,439 | 11,044,660,156 | 7,294,521,717 | 34.0 | 2,984,603,913 | 244.4 |
| 1998 | 4,266,312,063 | 11,780,174,095 | 7,513,862,032 | 36.2 | 3,094,940,606 | 242.8 |
| 1999 | 4,970,720,334 | 12,670,924,443 | 7,700,204,109 | 39.2 | 3,294,326,130 | 233.7 |
| 2000 | 5,578,046,785 | 13,115,065,443 | 7,537,018,658 | 42.5 | 3,192,604,492 | 236.1 |
| 2001 | 5,810,759,564 | 13,523,825,973 | 7,713,066,409 | 43.0 | 3,318,877,027 | 232.4 |
| 2002* | 6,176,574,529 | 14,664,661,236 | 8,488,086,707 | 42.1 | 3,609,470,436 | 235.2 |
| 2003* | 6,554,364,927 | 14,747,339,056 | 8,192,974,129 | 44.4 | 3,585,134,913 | 228.5 |
| 2004* | 6,804,394,627 | 15,197,925,988 | 8,393,531,361 | 44.8 | 3,651,653,125 | 229.9 |
| 2005* | 7,065,299,476 | 16,264,893,444 | 9,199,593,968 | 43.4 | 3,734,329,113 | 246.4 |

## Schedule of Employer Contributions

| Fiscal <br> Year <br> Ending | Valuation <br> Date <br> June 30 | Annual Required <br> Contribution | Actual Employer <br> Contribution\# | Percentage <br> Contributed |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |
| 1998 | 1996 | $\$ 508,940,065$ | $\$ 465,350,488$ | $91.4 \%$ |
| 1999 | 1997 | $508,259,679$ | $612,349,218$ | 120.5 |
| 2000 | 1998 | $524,815,537$ | $647,441,260$ | 123.4 |
| 2001 | 1999 | $547,532,673$ | $689,219,756$ | 125.9 |
| 2002 | 2000 | $537,789,669$ | $566,226,658$ | 105.3 |
| 2003 | 2001 | $572,226,197$ | $602,231,775$ | 105.2 |
| 2004 | 2002 | $638,541,074$ | $438,180,343$ | 68.6 |
| 2005 | 2003 | $619,186,005$ | $484,778,888$ | 78.3 |
| 2006 | 2004 | $672,555,533$ | N/A | N/A |
| 2007 | 2005 | $742,882,002$ | N/A | N/A |

\# Actual Employer Contributions prior to the 2004 fiscal year were supplied by ISTRF staff and may differ slightly from the financial statements provided for those valuations.

| Net Assets at Beginning of Year | \$ | 6,754,291,554 |
| :---: | :---: | :---: |
| Additions |  |  |
| Contributions |  |  |
| Member Contributions | \$ | 117,897,343 |
| Employer Contributions |  | 454,778,888 |
| Employer Contributions - Pension Stabilization |  | 30,000,000 |
| Total Contributions | \$ | 602,676,231 |
| Investments |  |  |
| Net Appreciation (Depreciation) in Fair Value | \$ | 371,383,976 |
| Interest Income |  | 134,000,795 |
| Dividend Income |  | 64,303,942 |
| Securities Lending Income |  | 28,592,382 |
| Less Investment Expense |  |  |
| Investment Fees |  | $(11,964,072)$ |
| Securities Lending Fees |  | $(25,427,300)$ |
| Net Investment Income | \$ | 560,889,723 |
| Other Additions |  |  |
| Transfers From Other Retirement Funds | \$ | 3,972,803 |
| Annuity and Disability Refunds |  | 855,380 |
| Outdated Benefit Checks |  | 0 |
| Reimbursement of Administrative Expense |  | 8,805 |
| Total Other Additions | \$ | 4,836,988 |
| Total Additions | \$ | 1,168,402,942 |
| Deductions |  |  |
| Annuity and Disability Benefits | \$ | 723,643,179 |
| Voluntary and Death Withdrawals |  | 9,237,268 |
| Claims on Outdated Benefit Checks |  | 91,219 |
| Administrative Expenses |  | 6,407,378 |
| Capital Projects |  | 593,733 |
| Depreciation Expenses |  | 24,211 |
| Transfers to Other Retirement Funds |  | 2,981,634 |
| Total Deductions | \$ | 742,978,622 |
| Change in Net Assets Held in Trust for Pension Benefits | \$ | 425,424,320 |
| Net Assets at End of Year | \$ | 7,179,715,874 |

# GASB Statements No. 25 ANd No. 27 <br> Statement of Plan Net Assets, June 30, 2005 

## Assets

| Cash and Cash Equivalents | $\$ 981,878,070$ |
| :--- | ---: |
| Securities Lending Collateral | $\$ 1,117,488,043$ |
| Receivables |  |
| Employer Contributions | $\$ 27,165,049$ |
| Due from PERF | 0 |
| Member Contributions | $30,632,382$ |
| Due from Lottery Commission | 0 |
| Securities Sold | $614,485,957$ |
| Investments Interest | $30,666,022$ |

Investments
U.S. Treasury and Agency Obligations
\$ 702,949,410

> Corporate Bonds and Notes 3,153,494,314

Foreign Bonds
Equity Securities
3,525,748,217
Foreign Equity Securities 0
Mortgage Securities 0
Venture Capital \& Partnerships 0
State \& Municipal Securities 0
Debt Securities 0
Indiana Pension Systems, Inc. 500,000
Real Estate 260,000
Total Investments \$6,680,002,531
Furniture and Equipment 54,823
Insurance Premium Paid in Advance 27
Total Assets \$9,482,372,904

## Liabilities

| Accrued Benefits Payable | 0 |
| :--- | ---: |
| Accrued Salaries Payable | 89,392 |
| Accrued Liability for Compensated Absences - Current | 142,561 |
| Accounts Payable | $3,215,376$ |
| Due to PERF | 495,505 |
| Securities Lending Collateral | $1,117,488,043$ |
| Payables for Securities Purchased | $1,181,104,221$ |
| $\quad$ Total Current Liabilities | $\$ 2,302,535,098$ |
| Accrued Liability for Compensated Absences - Long-Term | 121,932 |
| Total Liabilities | $\$ 2,302,657,030$ |
| Net Assets Held in Trust for Pension Benefits | $\mathbf{\$ 7 , 1 7 9 , 7 1 5 , 8 7 4}$ |

## SECTION G

共
Actuarial Assumptions, Methods and Definitions

## SUMMARY OF Assumptions and METHODS <br> USED FOR ISTRF ACTUARIAL VALUATION

The assumptions used in this valuation reflect the study of experience covering the period July 1, 1996 through June 30, 2002.

The investment return rate used in making the valuations was 7.5\% per year, compounded annually (net after administrative expenses). Considering other financial assumptions, the $7.5 \%$ investment return rate translates to an assumed real rate of return of $3.0 \%$ over across-the-board salary increases and $3.5 \%$ over price inflation.

Pay increase assumptions for individual active members are shown based on service on page G-8. Part of the assumption for each age is for a merit and/or seniority increase, $4.0 \%$ recognizes price inflation and $0.5 \%$ recognizes real wage growth.

Total active member payroll is assumed to increase 4.5\% annually, which is the portion of the individual pay increase assumptions attributable to inflation and other factors.

Price inflation, although not directly tied to benefits, was assumed to be $4.0 \%$ and is a component of the economic model used to determine the total wage inflation.

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

The mortality table, for post-retirement mortality and pre-retirement mortality, used in valuing allowances to be paid was the 1983 Group Annuity Mortality Male Table set back 5 years for men and 7 years for women. Related values are shown on pages H-3 and H-4. Disabled post-retirement mortality used was the 1983 Group Annuity Male Mortality Table, set forward 5 years for men and 3 years for women.

Probabilities of retirement are shown on page G-5.

The probabilities of withdrawal are shown for sample ages on page G-6.

The probabilities of disability are shown for sample ages on page G-7.

The entry age normal actuarial cost method of valuation was used in determining age and service allowance liability and normal cost, and vesting liability and normal cost.

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

Unfunded actuarial accrued liability is amortized to produce payments (principal and interest) which are level percent-of-payroll contributions.

Employer contribution dollars were assumed to be paid in equal installments throughout the employer fiscal year.

Present assets (cash and investments) were valued using the funding value.
The data about persons now covered and about present assets were furnished by the Fund's Administrative Staff. Although examined for general reasonableness, the data was not otherwise audited by the Actuary.

The actuarial valuation computations were made under the supervision of a Member of the American Academy of Actuaries (MAAA).

| Sample <br> Attained <br> Ages | Present Value of \$1 <br> Monthly for Life |  | Future Life Expectancy (years) |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Males | Females | Males | Females |
| 45 | \$158.38 | \$160.46 | 38.46 | 40.38 |
| 50 | 152.16 | 154.83 | 33.74 | 35.62 |
| 55 | 144.49 | 147.73 | 29.18 | 30.98 |
| 60 | 135.22 | 139.15 | 24.82 | 26.55 |
| 65 | 123.83 | 128.68 | 20.64 | 22.29 |
| 70 | 110.16 | 115.85 | 16.69 | 18.23 |
| 75 | 95.34 | 101.32 | 13.18 | 14.52 |
| 80 | 80.03 | 86.22 | 10.15 | 11.31 |
| Ref: | \#166sb3x1 | \#167sb0x1 |  |  |


| Sample <br> Attained <br> Ages | Portion of Age 55 <br> Members Still Alive |  |
| :---: | :---: | :---: |
|  | Males | Females |
| 55 | $100.00 \%$ | $100.00 \%$ |
| 60 | 97.64 | 98.05 |
| 65 | 94.17 | 95.07 |
| 70 | 88.96 | 90.74 |
| 75 | 80.41 | 83.77 |
| 80 | 67.75 | 72.81 |
| 85 | 50.97 | 57.78 |


| Age | Regular |  | Disabled |  | Age | Regular |  | Disabled |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Male | Female | Male | Female |  | Male | Female | Male | Female |
| 21 | 0.00033 | 0.00032 | 0.00049 | 0.00044 | 61 | 0.00662 | 0.00566 | 0.01758 | 0.01387 |
| 22 | 0.00034 | 0.00033 | 0.00051 | 0.00046 | 62 | 0.00714 | 0.00613 | 0.01980 | 0.01559 |
| 23 | 0.00035 | 0.00033 | 0.00054 | 0.00049 | 63 | 0.00772 | 0.00662 | 0.02223 | 0.01758 |
| 24 | 0.00037 | 0.00034 | 0.00057 | 0.00051 | 64 | 0.00838 | 0.00714 | 0.02482 | 0.01980 |
| 25 | 0.00038 | 0.00035 | 0.00061 | 0.00054 | 65 | 0.00916 | 0.00772 | 0.02753 | 0.02223 |
| 26 | 0.00039 | 0.00037 | 0.00065 | 0.00057 | 66 | 0.01006 | 0.00838 | 0.03035 | 0.02482 |
| 27 | 0.00041 | 0.00038 | 0.00069 | 0.00061 | 67 | 0.01113 | 0.00916 | 0.03337 | 0.02753 |
| 28 | 0.00042 | 0.00039 | 0.00073 | 0.00065 | 68 | 0.01239 | 0.01006 | 0.03668 | 0.03035 |
| 29 | 0.00044 | 0.00041 | 0.00078 | 0.00069 | 69 | 0.01387 | 0.01113 | 0.04039 | 0.03337 |
| 30 | 0.00046 | 0.00042 | 0.00086 | 0.00073 | 70 | 0.01559 | 0.01239 | 0.04460 | 0.03668 |
| 31 | 0.00049 | 0.00044 | 0.00091 | 0.00078 | 71 | 0.01758 | 0.01387 | 0.04939 | 0.04039 |
| 32 | 0.00051 | 0.00046 | 0.00097 | 0.00086 | 72 | 0.01980 | 0.01559 | 0.05476 | 0.04460 |
| 33 | 0.00054 | 0.00049 | 0.00104 | 0.00091 | 73 | 0.02223 | 0.01758 | 0.06068 | 0.04939 |
| 34 | 0.00057 | 0.00051 | 0.00113 | 0.00097 | 74 | 0.02482 | 0.01980 | 0.06713 | 0.05476 |
| 35 | 0.00061 | 0.00054 | 0.00124 | 0.00104 | 75 | 0.02753 | 0.02223 | 0.07407 | 0.06068 |
| 36 | 0.00065 | 0.00057 | 0.00137 | 0.00113 | 76 | 0.03035 | 0.02482 | 0.08148 | 0.06713 |
| 37 | 0.00069 | 0.00061 | 0.00153 | 0.00124 | 77 | 0.03337 | 0.02753 | 0.08932 | 0.07407 |
| 38 | 0.00073 | 0.00065 | 0.00172 | 0.00137 | 78 | 0.03668 | 0.03035 | 0.09753 | 0.08148 |
| 39 | 0.00078 | 0.00069 | 0.00193 | 0.00153 | 79 | 0.04039 | 0.03337 | 0.10605 | 0.08932 |
| 40 | 0.00086 | 0.00073 | 0.00218 | 0.00172 | 80 | 0.04460 | 0.03668 | 0.11484 | 0.09753 |
| 41 | 0.00091 | 0.00078 | 0.00247 | 0.00193 | 81 | 0.04939 | 0.04039 | 0.12417 | 0.10605 |
| 42 | 0.00097 | 0.00086 | 0.00279 | 0.00218 | 82 | 0.05476 | 0.04460 | 0.13387 | 0.11484 |
| 43 | 0.00104 | 0.00091 | 0.00314 | 0.00247 | 83 | 0.06068 | 0.04939 | 0.14407 | 0.12417 |
| 44 | 0.00113 | 0.00097 | 0.00351 | 0.00279 | 84 | 0.06713 | 0.05476 | 0.15486 | 0.13387 |
| 45 | 0.00124 | 0.00104 | 0.00391 | 0.00314 | 85 | 0.07407 | 0.06068 | 0.16631 | 0.14407 |
| 46 | 0.00137 | 0.00113 | 0.00432 | 0.00351 | 86 | 0.08148 | 0.06713 | 0.17821 | 0.15486 |
| 47 | 0.00153 | 0.00124 | 0.00476 | 0.00391 | 87 | 0.08932 | 0.07407 | 0.19046 | 0.16631 |
| 48 | 0.00172 | 0.00137 | 0.00520 | 0.00432 | 88 | 0.09753 | 0.08148 | 0.20301 | 0.17821 |
| 49 | 0.00193 | 0.00153 | 0.00566 | 0.00476 | 89 | 0.10605 | 0.08932 | 0.21790 | 0.19046 |
| 50 | 0.00218 | 0.00172 | 0.00613 | 0.00520 | 90 | 0.11484 | 0.09753 | 0.23409 | 0.20301 |
| 51 | 0.00247 | 0.00193 | 0.00662 | 0.00566 | 91 | 0.12417 | 0.10605 | 0.24844 | 0.21790 |
| 52 | 0.00279 | 0.00218 | 0.00714 | 0.00613 | 92 | 0.13387 | 0.11484 | 0.26395 | 0.23409 |
| 53 | 0.00314 | 0.00247 | 0.00772 | 0.00662 | 93 | 0.14407 | 0.12417 | 0.28080 | 0.24844 |
| 54 | 0.00351 | 0.00279 | 0.00838 | 0.00714 | 94 | 0.15486 | 0.13387 | 0.29915 | 0.26395 |
| 55 | 0.00391 | 0.00314 | 0.00916 | 0.00772 | 95 | 0.16631 | 0.14407 | 0.31918 | 0.28080 |
| 56 | 0.00432 | 0.00351 | 0.01006 | 0.00838 | 96 | 0.17821 | 0.15486 | 0.34109 | 0.29915 |
| 57 | 0.00476 | 0.00391 | 0.01113 | 0.00916 | 97 | 0.19046 | 0.16631 | 0.36505 | 0.31918 |
| 58 | 0.00520 | 0.00432 | 0.01239 | 0.01006 | 98 | 0.20301 | 0.17821 | 0.39310 | 0.34109 |
| 59 | 0.00566 | 0.00476 | 0.01387 | 0.01113 | 99 | 0.21790 | 0.19046 | 0.42726 | 0.36505 |
| 60 | 0.00613 | 0.00520 | 0.01559 | 0.01239 | 100 | 0.23409 | 0.20301 | 0.46953 | 0.39310 |
| Ref | \#166sb3x1 | \#167sb0x1 | \#166sb-7x1 | \#167sb-10x1 |  | \#166sb3x1 | \#167sbox1 | \#166sb-7x1 | \#167sb-10x1 |

## Probabilities of Age and Service Retirement For Members Eligible to Retire

| Regular Retirement |  |  | Rule of 85 Retirement |  |  | Early Retirement |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Age | Male | Female | Age | Male | Female | Age | Male | Female |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  | 50 | 0.0100 | 0.0100 |
|  |  |  |  |  |  | 51 | 0.0100 | 0.0100 |
|  |  |  |  |  |  | 52 | 0.0100 | 0.0100 |
|  |  |  |  |  |  | 53 | 0.0100 | 0.0100 |
|  |  |  |  |  |  | 54 | 0.0200 | 0.0200 |
|  |  |  | 55 | 0.1100 | 0.1100 | 55 | 0.0300 | 0.0300 |
|  |  |  | 56 | 0.1000 | 0.1100 | 56 | 0.0300 | 0.0350 |
|  |  |  | 57 | 0.1000 | 0.1200 | 57 | 0.0350 | 0.0400 |
|  |  |  | 58 | 0.1200 | 0.1200 | 58 | 0.0400 | 0.0500 |
|  |  |  | 59 | 0.1500 | 0.1600 | 59 | 0.0300 | 0.0600 |
| 60 | 0.1500 | 0.1500 | 60 | 0.1500 | 0.1500 |  |  |  |
| 61 | 0.1500 | 0.1500 | 61 | 0.1500 | 0.1500 |  |  |  |
| 62 | 0.2500 | 0.2000 | 62 | 0.2500 | 0.2000 |  |  |  |
| 63 | 0.2000 | 0.2000 | 63 | 0.2000 | 0.2000 |  |  |  |
| 64 | 0.2000 | 0.2000 | 64 | 0.2000 | 0.2000 |  |  |  |
| 65 | 0.3500 | 0.3500 | 65 | 0.3500 | 0.3500 |  |  |  |
| 66 | 0.2500 | 0.2500 | 66 | 0.2500 | 0.2500 |  |  |  |
| 67 | 0.2000 | 0.2500 | 67 | 0.2000 | 0.2500 |  |  |  |
| 68 | 0.2000 | 0.3000 | 68 | 0.2000 | 0.3000 |  |  |  |
| 69 | 0.2000 | 0.3000 | 69 | 0.2000 | 0.3000 |  |  |  |
| 70 | 1.0000 | 1.0000 | 70 | 1.0000 | 1.0000 |  |  |  |
| Ref | 485 | 732 |  | 486 | 734 |  | 435 | 481 |

Withdrawal Rates
Prior to Eligibility for Retirement

| Years of <br> Service | Service Based |  |
| :---: | :---: | :---: |
|  | Male | Female |
| $0-1$ | 0.3000 | 0.3500 |
| $1-2$ | 0.1700 | 0.1800 |
| $2-3$ | 0.1100 | 0.1400 |
| $3-4$ | 0.0900 | 0.1100 |
| $4-5$ | 0.0700 | 0.1000 |
| $5-6$ | 0.0600 | 0.0800 |
| $6-7$ | 0.0500 | 0.0650 |
| $7-8$ | 0.0450 | 0.0600 |
| $8-9$ | 0.0400 | 0.0550 |
| $9-10$ | 0.0400 | 0.0500 |
| Ref | 293 | 294 |


| Attained <br> Age | Age Based |  |
| :---: | :---: | :---: |
|  | Male | Female |
| 25 | 0.0664 | 0.0950 |
| 26 | 0.0664 | 0.0950 |
| 27 | 0.0648 | 0.0950 |
| 28 | 0.0576 | 0.0880 |
| 29 | 0.0504 | 0.0800 |
| 30 | 0.0432 | 0.0720 |
| 31 | 0.0368 | 0.0650 |
| 32 | 0.0304 | 0.0580 |
| 33 | 0.0288 | 0.0520 |
| 34 | 0.0256 | 0.0480 |
| 35 | 0.0232 | 0.0430 |
| 36 | 0.0208 | 0.0380 |
| 37 | 0.0184 | 0.0340 |
| 38 | 0.0168 | 0.0310 |
| 39 | 0.0152 | 0.0290 |
| 40 | 0.0144 | 0.0260 |
| 41 | 0.0136 | 0.0240 |
| 42 | 0.0128 | 0.0220 |
| 43 | 0.0128 | 0.0210 |
| 44 | 0.0128 | 0.0200 |
| 45 | 0.0120 | 0.0200 |
| 46 | 0.0120 | 0.0200 |
| 47 | 0.0120 | 0.0200 |
| 48 | 0.0120 | 0.0200 |
| 49 | 0.0120 | 0.0200 |
| 50 | 0.0120 | 0.0200 |
| 51 | 0.0112 | 0.0200 |
| 52 | 0.0112 | 0.0200 |
| 53 | 0.0112 | 0.0200 |
| 54 | 0.0112 | 0.0190 |
| 55 | 0.0104 | 0.0180 |
| 56 | 0.0104 | 0.0160 |
| 57 | 0.0096 | 0.0140 |
| 58 | 0.0096 | 0.0140 |
| 60 | 0.0096 | 0.0140 |
| Ref | 0.0096 | 0.0140 |
|  |  | $\# 203 \times 1$ |

DISABILITY RATES
PRIOR TO ELIGIBILITY FOR RETIREMENT

| Attained Age | Age Based |  |
| :---: | :---: | :---: |
|  | Male | Female |
| 20 | 0.0001 | 0.0001 |
| 21 | 0.0001 | 0.0001 |
| 22 | 0.0001 | 0.0001 |
| 23 | 0.0001 | 0.0001 |
| 24 | 0.0001 | 0.0001 |
| 25 | 0.0001 | 0.0001 |
| 26 | 0.0001 | 0.0001 |
| 27 | 0.0001 | 0.0001 |
| 28 | 0.0001 | 0.0001 |
| 29 | 0.0001 | 0.0001 |
| 30 | 0.0001 | 0.0001 |
| 31 | 0.0001 | 0.0001 |
| 32 | 0.0001 | 0.0001 |
| 33 | 0.0001 | 0.0001 |
| 34 | 0.0001 | 0.0001 |
| 35 | 0.0001 | 0.0001 |
| 36 | 0.0001 | 0.0001 |
| 37 | 0.0001 | 0.0001 |
| 38 | 0.0001 | 0.0001 |
| 39 | 0.0001 | 0.0001 |
| 40 | 0.0001 | 0.0001 |
| 41 | 0.0002 | 0.0002 |
| 42 | 0.0002 | 0.0002 |
| 43 | 0.0002 | 0.0002 |
| 44 | 0.0002 | 0.0002 |
| 45 | 0.0002 | 0.0002 |
| 46 | 0.0003 | 0.0003 |
| 47 | 0.0003 | 0.0003 |
| 48 | 0.0004 | 0.0004 |
| 49 | 0.0004 | 0.0004 |
| 50 | 0.0005 | 0.0005 |
| 51 | 0.0006 | 0.0006 |
| 52 | 0.0007 | 0.0007 |
| 53 | 0.0008 | 0.0008 |
| 54 | 0.0008 | 0.0008 |
| 55 | 0.0009 | 0.0009 |
| 56 | 0.0009 | 0.0009 |
| 57 | 0.0010 | 0.0010 |
| 58 | 0.0010 | 0.0010 |
| 59 | 0.0010 | 0.0010 |
| 60 | 0.0010 | 0.0010 |
| Ref | \#135 x 0.1 | \#135 x 0.1 |


| Years of Service | Salary Increase Assumptions for an Individual Member |  |  |
| :---: | :---: | :---: | :---: |
|  | Merit \& Seniority | Base (Economic) | Increase Next Year |
| 1 | 11.00\% | 4.50\% | 15.50\% |
| 2 | 7.50\% | 4.50\% | 12.00\% |
| 3 | 5.50\% | 4.50\% | 10.00\% |
| 4 | 5.50\% | 4.50\% | 10.00\% |
| 5 | 5.00\% | 4.50\% | 9.50\% |
| 6 | 4.50\% | 4.50\% | 9.00\% |
| 7 | 4.50\% | 4.50\% | 9.00\% |
| 8 | 4.00\% | 4.50\% | 8.50\% |
| 9 | 4.00\% | 4.50\% | 8.50\% |
| 10 | 3.50\% | 4.50\% | 8.00\% |
| 11 | 3.00\% | 4.50\% | 7.50\% |
| 12 | 3.00\% | 4.50\% | 7.50\% |
| 13 | 2.50\% | 4.50\% | 7.00\% |
| 14 | 2.50\% | 4.50\% | 7.00\% |
| 15 | 2.50\% | 4.50\% | 7.00\% |
| 16 | 2.50\% | 4.50\% | 7.00\% |
| 17 | 2.50\% | 4.50\% | 7.00\% |
| 18 | 2.50\% | 4.50\% | 7.00\% |
| 19 | 2.00\% | 4.50\% | 6.50\% |
| 20 | 1.50\% | 4.50\% | 6.00\% |
| 21 | 1.00\% | 4.50\% | 5.50\% |
| 22 | 0.75\% | 4.50\% | 5.25\% |
| 23 | 0.50\% | 4.50\% | 5.00\% |
| 24 | 0.25\% | 4.50\% | 4.75\% |
| 25 | 0.25\% | 4.50\% | 4.75\% |
| 26 | 0.25\% | 4.50\% | 4.75\% |
| 27 | 0.25\% | 4.50\% | 4.75\% |
| 28 | 0.25\% | 4.50\% | 4.75\% |
| 29 | 0.25\% | 4.50\% | 4.75\% |
| 30 | 0.25\% | 4.50\% | 4.75\% |
| 31 | 0.25\% | 4.50\% | 4.75\% |
| 32 | 0.25\% | 4.50\% | 4.75\% |
| 33 | 0.25\% | 4.50\% | 4.75\% |
| 34 | 0.25\% | 4.50\% | 4.75\% |
| 35 | 0.25\% | 4.50\% | 4.75\% |
| 36 | 0.25\% | 4.50\% | 4.75\% |
| 37 | 0.25\% | 4.50\% | 4.75\% |
| 38 | 0.25\% | 4.50\% | 4.75\% |
| 39 | 0.25\% | 4.50\% | 4.75\% |
| 40 | 0.25\% | 4.50\% | 4.75\% |
| Ref. | 64 |  |  |

## Miscellaneous and Technical Assumptions

| Marriage Assumption: | $100 \%$ of members are assumed to be married for purposes of valuing <br> death-in-service benefits. Males spouses are assumed to be three <br> years older than female spouses. <br> Beginning of (fiscal) year. Payroll amounts stated in the valuation <br> data are amounts actually paid during the prior year. |
| :--- | :--- |
| Pay Increase Timing: | Retirement decrements are assumed to occur at the beginning of the <br> year, other decrements are assumed to occur mid-year. |
| Decrement Timing: | Eligibility for benefits is determined based upon the age nearest <br> birthday and service nearest whole year on the date the decrement is <br> assumed to occur. <br> Exact fractional service is used to determine the amount of benefit <br> payable. <br> Benefit Service: <br> Decrement Relativity: <br> Other: <br> adjustment for multiple decrement table effects. |
| Miscellaneous Adjustments: | Disability and withdrawal decrements do not operate after member <br> reaches retirement eligibility. Only the withdrawal decrement <br> operates during the first 10 years of service. <br> The calculated normal, early retirement and vested deferred liabilities |
| and normal costs were increased by 1\% to account for the inclusion of |  |

## Definitions of Technical Terms

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

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

Actuarial Assumptions. Estimates of expected future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment return and pay 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 (pay increases and investment return) consist of the underlying rates 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 benefit payments" between future normal costs and actuarial accrued liabilities. Sometimes referred to as the "actuarial funding method."

Actuarial Equivalent. One series of payments is said to be actuarially equivalent to another series of payments if the two series have the same actuarial present value.

Actuarial Gain (Loss). The difference between actual unfunded actuarial accrued liability and anticipated unfunded actuarial accrued liability -- during the period between two valuation dates. It is a measurement of the difference between actual and expected experience.

Actuarial Present Value. The single amount now which is equal to a payment or series of payments in the future. It is determined by discounting future payments at predetermined rates of interest, and by probabilities of payment.

## DEFINITIONS OF TECHNICAL TERMS (CONTINUED)

Amortization. Paying off a present value with periodic payments.

Normal Cost. The portion of the actuarial present value of future benefits that is assigned to the current year by the actuarial cost method. Sometimes referred to as "current cost."

Unfunded Actuarial Accrued Liability. The difference between the actuarial accrued liabilities and the actuarial value of assets. Sometimes referred to as "unfunded past service liability," or "unfunded accrued liability" or simply as "unfunded liability."

## SECTION H


Fnancial Pinciples

The funding objective of the ISTRF 1996 Fund is to establish and receive contributions which, when invested at the assumed rate of return, will ultimately accumulate assets over each member's working lifetime that will be sufficient to pay expected retirement allowances.

## Plan Structures and Funding Arrangements

The Indiana State Teachers' Retirement Fund (ISTRF) is comprised of a two-plan structure in compliance with Indiana Code Section 21-6.1-2-2:

- The Pre-1996 Fund consists of those members who were hired prior to July 1, 1995, and who have maintained continuous employment with the same school corporation or covered institution since that date.
- The 1996 Fund consists of those members who were:
(a) hired on or after July 1, 1995, or
(b) hired before July 1, 1995, served in a position covered by ISTRF, and, subsequent to June 30, 1995, were either hired by another school corporation or institution covered by ISTRF, or were rehired by a covered prior employer.


## Characteristics of the Pre-1996 Fund:

1. Active membership in the Pre-1996 Fund continues to decline as members quit, become disabled, die, retire, or incur a change in status as described in (b) above, thereby automatically transferring to membership in the 1996 Fund.
2. The pension benefits from the Pre-1996 Fund are funded by State appropriations (including short-term contributions of some revenue from the State Lottery). Annuity benefits payable from the Pre-1996 Fund are funded by the annuitization of Pre-1996 Fund member contributions at the time of retirement.

## Characteristics of the 1996 Fund:

1. As members depart from active service in the Pre-1996 Fund, their replacements will become members of the 1996 Fund. If the 1996 Fund were a stand-alone plan, this pattern of departures and hirings would produce a fairly constant population size. However, overall active membership in the 1996 Fund is expected to increase over time due to the following factors:
(a) As Pre-1996 Fund members depart from active service, their replacements will become members of the 1996 Fund; and
(b) The special provisions of Indiana Code Section 21-6.1-2-2 require that any member who changes jobs within the System or who is rehired within the System after a period of absence automatically becomes a 1996 Fund member.
2. The result of an expanding membership in the New Plan is growth in the 1996 Fund payroll. The expanding 1996 Fund population and payroll present challenges to level percent-ofpayroll funding.
3. Pension benefits payable from the 1996 Fund are funded by contributions from local school corporations or other institutions that employ covered members. Annuity benefits payable at retirement from the 1996 Fund are funded by 1996 Fund members.

## Plan Structures And Funding Arrangements (CONTINUED)

## Funding Arrangements

Prior to the legislation that established the two-plan structure in ISTRF, the pension benefits of the Indiana State Teachers' Retirement System were funded on a pay-as-you go system. Under this arrangement, amounts were appropriated to meet the current year's pension payment requirements. Pension benefits payable from the Pre-1996 Fund continue to be funded on this basis. In 1995, the Pension Stabilization Fund was set up for the Pre-1996 Fund.

Since then, some pre-funding progress has been made via State appropriations to this Fund. Pension benefits payable from the 1996 Fund are funded through percent-of-pay contributions. The Teachers’ Retirement Board sets this contribution rate after reviewing the most recent actuarial valuation report. The current contribution rate of $7.0 \%$ was set by the Board in 2005.

Most public employee retirement systems choose or are required by state law to pre-fund their plans. One of the advantages to pre-funding is that a pool of assets is created and built up to a point that investment income on those assets becomes a major contributor to the fund. Under the pay-as-you-go funding method, the contribution rate starts off much lower, but continues to grow over generations of taxpayers, to a point much higher than under the pre-funding method. Essentially, by not pre-funding a plan, future taxpayers will have to pay more and intergenerational equity between generations of taxpayers will be compromised.

## The Actuarial Valuation Process

The actuarial valuation is the mathematical process by which a contribution rate is determined. The flow of activity constituting the valuation may be summarized as follows:
A. Covered Person Data, furnished by the plan administrator

Retired members and beneficiaries now receiving benefits
Former employees with vested benefits not yet payable
Active employees
B. + Asset data (cash and investments), furnished by the plan administrator
C. + Estimates of future experience (actuarial assumptions), which are established by the Board of Trustees after consulting with the actuary
D. + Funding method for employer contributions (the long-term planned pattern for employer contributions)
E. + Mathematically combining the assumptions, the funding method, and the data
F. = Determination of:

Plan financial position
and/or New Employer Contribution Rate

## Closed Population Projection



The projection depicted above indicates that by 2016, only half of the current active population will remain.


[^0]:    * Based on 0.5\% future COLA assumption.
    \# After amendments and/or revised actuarial assumptions and/or methods.

