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**INDIANA STATE TEACHERS' RETIREMENT FUND**

**THE REPORT OF THE  
ANNUAL ACTUARIAL VALUATION**

**AS OF**

**JUNE 30, 2004**

**Gabriel, Roeder, Smith & Company  
Consultants and Actuaries**

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**GABRIEL, ROEDER, SMITH & COMPANY**  
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February 9, 2005

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, 2004 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,

Judith A. Kermans, EA, MAAA

Kenneth G. Alberts

JAK:clb:lr

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# **SUMMARY OF RESULTS**

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## SUMMARY OF KEY VALUATION RESULTS

### JUNE 30, 2004

	CLOSED PLAN	NEW PLAN	ISTRF TOTAL
<b>Fund Members</b>			
Retired Members and Beneficiaries			
Number	36,271	797	37,068
Annual Annuity and Pension Payments	\$ 546,960,357	\$ 14,480,017	\$ 561,440,374
Inactive Members			
Number - Vested	4,484	776	5,260
Number - Non Vested	10,658	20,814	31,472
Active Members			
Number	41,510	32,000	73,510
Annual Payroll	\$ 2,384,480,342	\$1,267,172,783	\$ 3,651,653,125
<b>Accrued Liabilities - Annuities and Pensions</b>			
Retired Members and Beneficiaries	\$ 5,116,191,214	\$ 148,889,117	\$ 5,265,080,331
Inactive Members	353,325,908	67,416,762	420,742,670
Active Members	8,079,008,198	1,433,094,789	9,512,102,987
Total	\$13,548,525,320	\$1,649,400,668	\$15,197,925,988
<b>Funding Value of Assets</b>	\$ 5,765,667,711	\$1,038,726,916	\$ 6,804,394,627
<b>Market Value of Assets</b>	\$ 5,723,213,137	\$1,031,078,416	\$ 6,754,291,553
<b>Unfunded Actuarial Accrued Liability</b>	\$ 7,782,857,609	\$610,673,752	\$ 8,393,531,361
<b>Funded Ratios (Funding Value Basis)</b>			
Retired Member Annuity and Pension Liabilities	56.6%	73.5%#	
Active and Inactive Member Annuity and Pension Liabilities	34.0%	61.9%#	
All Annuity and Pension Liabilities	42.6%	63.0%	
<b>Computed Employer Contribution Rate for Fiscal Year 2005-2006*</b>			
Normal Cost	5.94%	6.14%	6.00%
Unfunded Actuarial Accrued Liability	15.43%	2.25%	11.12%
Total	21.37%	8.39%	17.12%

# Currently, there are enough assets in the New Plan employer contribution reserve to cover the unfunded portion of the retiree liabilities. If an asset transfer of \$39,468,083 were made from the employer contribution reserve to the retiree reserve, then the retiree liabilities would be 100% funded and the active and inactive member pension liabilities would be 42% funded in the New Plan. As a result, the funded percentages on this page and page 2 may not match the percentages on the historical schedules in Section B where assets and liabilities are compared in total.

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

**SUMMARY OF KEY VALUATION RESULTS FOR PRIOR YEAR  
JUNE 30, 2003**

	<b>CLOSED PLAN</b>	<b>NEW PLAN</b>	<b>ISTRF TOTAL</b>
<b>Fund Members</b>			
Retired Members and Beneficiaries			
Number	35,627	608	36,235
Annual Annuity and Pension Payments	\$ 516,616,930	\$ 10,447,457	\$ 527,064,387
Inactive Members			
Number - Vested	4,612	671	5,283
Number - Non Vested	10,996	19,407	30,403
Active Members			
Number	43,705	29,936	73,641
Annual Payroll	\$ 2,448,271,197	\$ 1,136,863,716	\$ 3,585,134,913
<b>Accrued Liabilities - Annuities and Pensions</b>			
Retired Members and Beneficiaries	\$ 4,832,820,938	\$ 107,684,111	\$ 4,940,505,049
Inactive Members	358,669,897	54,706,948	413,376,845
Active Members	8,163,375,605	1,230,081,557	9,393,457,162
Total	\$13,354,866,440	\$1,392,472,616	\$14,747,339,056
<b>Funding Value of Assets</b>	\$ 5,728,553,155	\$825,811,772	\$6,554,364,927
<b>Market Value of Assets</b>	\$ 5,379,966,489	\$775,560,519	\$6,155,527,008
<b>Unfunded Actuarial Accrued Liability</b>	\$ 7,626,313,285	\$566,660,844	\$ 8,192,974,129
<b>Funded Ratios (Funding Value Basis)</b>			
Retired Member Annuity and Pension Liabilities	58.6%	23.2%	
Active and Inactive Member Annuity and Pension Liabilities	34.0%	62.3%	
All Annuity and Pension Liabilities	42.9%	59.3%	
<b>Computed Employer Contribution Rate for Fiscal Year 2004-2005</b>			
Normal Cost	5.99%	6.20%	6.06%
Unfunded Actuarial Accrued Liability	13.32%	2.09%	9.90%
Total	19.31%	8.29%	15.96%

# **SECTION A**

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## **Valuation Results**

# COMMENTS

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## **Contribution Rates**

Page A-3 shows the computed contribution rates for the Closed Plan, the New Plan 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 Closed plan is shown for comparison purposes only, since this plan is funded on a pay-as-you-go basis. The computed contribution rate for the New Plan is calculated as if it were a stand-alone plan.

## **Plan Provisions**

The ad-hoc COLA effective January 1, 2005 pursuant to IC 5-10.2-5-37 has been taken into consideration for the purpose of calculating plan liabilities. There were no other changes in plan provisions since the June 30, 2003 actuarial valuation.

## **Experience**

### **A) Data**

Data for the valuation was provided by ISTRF from its new system (Indiana Pension Systems, Inc.). We reviewed the data for general consistency with the prior year, but did not otherwise audit it.

In the future, 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 Closed Plan. This results in an overstatement of Closed Plan liabilities and assets and an understatement of New Plan liabilities and assets.

### **B) PSF**

The Pension Stabilization Fund (PSF) was established as a mechanism to partially pre-fund liabilities in the Closed Plan. We have been informed that, during the next couple of years, contributions to the PSF will be suspended and PSF funds will be used to pay pensions to Closed Plan members. This will result in an additional burdening on future generations of tax payers as the benefits promised to current teachers become due. It is expected that pension payments to closed plan members will peak sometime around 2027.



## COMMENTS

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### C) Assets

Currently, the Retired Member Liabilities (annuity plus pension) are less than 100% funded in the New Plan. 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 \$39,468,083 be made from the Employer Reserve for Active Members to the Retired Member Reserve to restore the balance between assets and liabilities.

### D) Current Year Changes in Assumptions and Methods

- The adjustment for unused sick leave lump sum payments at retirement included in Final Average Pay (FAP) was reduced from 2% to 1%. Data should be collected to verify the 1% adjustment that is used in the valuation to account for these lump sum payments in FAP.
- The amortization period used to amortize unfunded liabilities was changed from 35 years to 30 years so that the actuarial funding requirements would match the accounting requirements of GASB Statement No. 25. GASB Statement No. 25 requires that a maximum amortization period of 30 years be used for July 1, 2006 and later to determine the Annual Required Contribution (ARC).
- Investment experience for the year ended June 30, 2004 was very favorable. The market rate of return was 11.6% (see page A-5). However, under the asset valuation method, market gains and losses are spread over a 4-year period and prior years' investment results were much less favorable. As a result of prior losses which have not yet been fully recognized, the funding value of assets still exceeds the market value by \$50.1 million. If this difference is not offset by future investment gains, the funding position will continue to diminish. Occasional investment losses are an expected part of normal market cycles and will not jeopardize the financial position of the Fund. However, the importance of a sound investment program cannot be overemphasized.

### Recommendations

Gabriel, Roeder, Smith & Company recommends the following:

- Recognize the combined contribution rate of 17.12% of total payroll shown on page A-3 as the level rate necessary to fund ISTRF benefits.
- In the absence of pre-funding the Closed Plan, continue to make contributions to the PSF and defer withdrawals from the PSF.
- Collect/supply additional information for the purpose of studying and/or identifying 1) July 1<sup>st</sup> retirees; 2) Federally Funded Teachers; and 3) Unused Sick Leave lump sum paid upon retirement.

**COMPUTED EMPLOYER CONTRIBUTION RATES**  
**JUNE 30, 2004**

<b>Contributions for</b>	<b>Employer Contributions As %s of Active Payroll For Fiscal Year Ending 2006</b>		
	<b>Closed Plan 30-Year Amortization of UAAL</b>	<b>New Plan 30-Year Amortization of UAAL</b>	<b>Totals 30-Year Amortization of UAAL</b>
Normal Cost:			
Age and Service Pensions	5.68%	5.88%	5.74%
Disability and Death-in-Service	0.26%	0.26%	0.26%
<b>Totals</b>	<b>5.94%</b>	<b>6.14%</b>	<b>6.00%</b>
Unfunded Actuarial Accrued Liability (UAAL):			
Retired Members and Beneficiaries	4.64%	0.15%	2.99%
Active and Inactive Vested Members	10.79%	2.10%	8.13%
<b>Totals</b>	<b>15.43%</b>	<b>2.25%</b>	<b>11.12%</b>
<b>Computed Employer Contribution Rates</b>	<b>21.37%</b>	<b>8.39%</b>	<b>17.12%</b>
<b>\$ Contribution Based on Computed Rates</b>	<b>\$ 556,000,000</b>	<b>\$ 116,000,000</b>	<b>\$ 672,000,000</b>
<b>2005-2006 Expected Employer Contribution</b>			
<b>Amount Based on Budgeted Rates</b>	<b>\$ 530,000,000</b>	<b>\$ 125,000,000</b>	<b>\$ 655,000,000</b>

**COMMENTS REGARDING CONTRIBUTION RATES**

- The Expected Employer Contribution Amount shown for the Closed Plan is the amount of pension benefits expected to be paid in the 2005-2006 fiscal year. This amount expressed as a percentage of valuation payroll is 22.25%.
- The Expected Employer Contribution Amount shown for the New Plan is the current Board-adopted rate of 9% of payroll multiplied by the projected valuation payroll.
- The dollar contribution based on computed rates is a projection to the 2005-2006 fiscal year at the 4.5% payroll growth rate assumption and is provided for comparison purposes.
- The contribution rates shown above include a change in the assumption regarding lump sum payments included in Average Annual Compensation, as well as a decrease in the amortization period from 35 to 30 years so that the actuarial funding requirements would match the accounting requirements of GASB Statement No. 25. GASB Statement No. 25 requires that a maximum amortization period of 30 years be used for July 1, 2006 and later to determine the Annual Required Contribution (ARC). The changes resulted in a net increase in the total computed employer contribution rate of 0.86% of payroll.

## COMMENTS REGARDING DEVELOPMENT OF ASSETS AND LIABILITIES

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The Market Value of Assets as of June 30, 2004 was reported to be \$6,754,291,553. Using this figure, the *Funding Value of Assets* (based on the method implemented for the June 30, 2002 valuation) is \$6,804,394,628 (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 Closed Plan and the New Plan 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	\$ 115,832,926
Employer Contributions	<u>438,180,342</u>
Total Contributions	\$ 554,013,268
Other Additions	<u>4,180,984</u>
<b>Total Additions</b>	<b>\$ 558,194,252</b>

#### Deductions

Benefit Payments	\$ 665,033,774
Other Deductions	<u>2,363,876</u>
<b>Total Deductions</b>	<b>\$ 667,397,650</b>
<b>Non-Investment Net Cash Flow</b>	<b>\$ (109,203,398)</b>

## DEVELOPMENT OF THE FUNDING VALUE OF ASSETS

Year Ended June 30:	2002	2003	2004	2005	2006	2007
A. Funding Value Beginning of Year	\$5,810,759,564	\$6,176,574,529	\$6,554,364,927			
B. Market Value End of Year	5,722,753,180	6,155,527,008	6,754,291,553			
C. Market Value Beginning of Year	5,810,759,564	5,722,753,180	6,155,527,008			
D. Non-Investment Net Cash Flow	78,343,885	94,378,676	(109,203,398)			
E. Investment Return						
E1. Market Total: B - C - D	(166,350,269)	338,395,152	707,967,943			
E2. Amount for Immediate Recognition (7.5%)	438,744,863	466,782,290	487,482,242			
E3. Amount for Phased-In Recognition: E1-E2	(605,095,132)	(128,387,138)	220,485,701			
F. Phased-In Recognition of Investment Gain/(loss)						
F1. Current Year: 0.25 x E3	\$ (151,273,783)	\$ (32,096,785)	\$ 55,121,425			
F2. First Prior Year	-	(151,273,783)	(32,096,785)	\$ 55,121,425		
F3. Second Prior Year	-	-	(151,273,783)	(32,096,785)	\$ 55,121,425	
F4. Third Prior Year	-	-	-	(151,273,783)	(32,096,785)	\$ 55,121,428
F5. Total Recognized Investment Gain/(Loss)	\$ (151,273,783)	\$ (183,370,568)	\$ (128,249,143)	\$ (128,249,143)	\$ 23,024,640	\$ 55,121,428
G. Total Return Amount Recognized this Year: E2 + F5	\$ 287,471,080	\$ 283,411,722	\$ 359,233,099			
H. Preliminary Funding Value End of Year: A + D + G	6,176,574,529	6,554,364,927	6,804,394,628			
H1. 120% of Market Value End of Year	6,867,303,816	7,386,632,410	8,105,149,864			
H2. 80% of Market Value End of Year	4,578,202,544	4,924,421,606	5,403,433,242			
H3. Funding Value End of Year: H, but not greater than H1, nor less than H2	\$ 6,176,574,529	\$ 6,554,364,927	\$ 6,804,394,628			
I. Difference between Market and Funding Value: B - H3	\$ (453,821,349)	\$ (398,837,919)	\$ (50,103,075)	\$ 78,146,068	\$ 55,121,428	\$ -
J. Recognized Rate of Return	<b>4.9%</b>	<b>4.6%</b>	<b>5.5%</b>			
K. Market Value Rate of Return	(2.8) %	5.9%	11.6%			

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.

**DEVELOPMENT OF ASSETS AND LIABILITIES  
JUNE 30, 2004**

**(MARKET VALUE BASIS)**

<b>Reserve Allocation</b>	<b>Closed Plan</b>	<b>New Plan</b>	<b>Total</b>
<b>Member Reserves:</b>			
Active and Inactive	\$2,849,090,857	\$445,895,816	\$3,294,986,673
Retired	625,682,433	15,315,107	640,997,540
<b>Total Member Reserves</b>	<b>3,474,773,290</b>	<b>461,210,923</b>	<b>3,935,984,213</b>
<b>Employer Reserves:</b>			
Active	0	476,567,270	476,567,270
Retired			
Pension Stabilization Fund	1,953,065,682	0	1,953,065,682
Other	295,374,165	93,300,223	388,674,388
<b>Total</b>	<b>2,248,439,847</b>	<b>93,300,223</b>	<b>2,341,740,070</b>
<b>Total Employer Reserves</b>	<b>2,248,439,847</b>	<b>569,867,493</b>	<b>2,818,307,340</b>
<b>Total Reserves</b>	<b>\$5,723,213,137</b>	<b>\$1,031,078,416</b>	<b>\$6,754,291,553</b>

**ACTUARIAL ACCRUED LIABILITY: COMPUTED AND UNFUNDED**

	<b>Closed Plan</b>	<b>New Plan</b>	<b>Total</b>
<b>Retired Members and Beneficiaries:</b>			
Computed accrued liability	\$ 5,116,191,214	\$148,889,117	\$ 5,265,080,331
Allocated assets (market value)	2,874,122,280	108,615,330	2,982,737,610
Funding Value adjustment	21,320,128	805,704	22,125,832
<b>Unfunded Accrued Liability</b>	<b>2,220,748,806</b>	<b>39,468,083</b>	<b>2,260,216,889</b>
<b>Active and Inactive Members:</b>			
Computed accrued liability	8,432,334,106	1,500,511,551	9,932,845,657
Allocated assets (market value)	2,849,090,857	922,463,086	3,771,553,943
Funding Value adjustment	21,134,446	6,842,796	27,977,242
<b>Unfunded Accrued Liability</b>	<b>5,562,108,803</b>	<b>571,205,669</b>	<b>6,133,314,472</b>
<b>ISTRF Total:</b>			
Computed accrued liability	13,548,525,320	1,649,400,668	15,197,925,988
Allocated assets (market value)	5,723,213,137	1,031,078,416	6,754,291,553
Funding Value adjustment	42,454,574	7,648,500	50,103,074
<b>Unfunded Accrued Liability</b>	<b>\$ 7,782,857,609</b>	<b>\$610,673,752</b>	<b>\$ 8,393,531,361</b>

**CLOSED PLAN BALANCE SHEET**  
**SUMMARY STATEMENT OF FUND RESOURCES AND OBLIGATIONS**  
**JUNE 30, 2004**

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**PRESENT RESOURCES AND EXPECTED FUTURE RESOURCES**

	<b>Annuities</b>	<b>Pensions</b>	<b>Total</b>
A. Funding value of system assets			
1. Net assets from Fund financial statements	\$3,474,773,290	\$ 2,248,439,847	\$ 5,723,213,137
2. Funding value adjustment	25,775,734	16,678,840	42,454,574
3. Funding value of assets	3,500,549,024	2,265,118,687	5,765,667,711
B. Actuarial present value of expected future employer contributions			
1. For normal costs	0	1,190,102,500	1,190,102,500
2. For unfunded actuarial accrued liability	44,201,129	7,738,656,480	7,782,857,609
3. Total	44,201,129	8,928,758,980	8,972,960,109
C. Present value of expected future member contributions*	605,086,100	0	605,086,100
D. Total Present and Future Resources	\$4,149,836,253	\$11,193,877,667	\$15,343,713,920

**ACTUARIAL PRESENT VALUE OF EXPECTED FUTURE  
BENEFIT PAYMENTS AND RESERVES**

	<b>Annuities</b>	<b>Pensions</b>	<b>Total</b>
A. To retired members and beneficiaries			
1. Annual benefits	\$ 674,524,850	\$ 4,441,666,364	\$ 5,116,191,214
2. Reserve	0	0	0
3. Totals	674,524,850	4,441,666,364	5,116,191,214
B. To vested terminated members	207,567,920	145,757,988	353,325,908
C. To present active members			
1. Allocated to service rendered prior to valuation date	2,662,657,383	5,416,350,815	8,079,008,198
2. Allocated to service likely to be rendered after valuation date*	605,086,100	1,190,102,500	1,795,188,600
3. Total	3,267,743,483	6,606,453,315	9,874,196,798
D. Total Actuarial Present Value of Expected Future Benefit Payments and Reserves	\$4,149,836,253	\$11,193,877,667	\$15,343,713,920

\* Based on 3% mandatory member contributions.

**NEW PLAN BALANCE SHEET**  
**SUMMARY STATEMENT OF FUND RESOURCES AND OBLIGATIONS**  
**JUNE 30, 2004**

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**PRESENT RESOURCES AND EXPECTED FUTURE RESOURCES**

	<u>Annuities</u>	<u>Pensions</u>	<u>Total</u>
A. Funding value of system assets			
1. Net assets from Fund financial statements	\$461,210,923	\$ 569,867,493	\$ 1,031,078,416
2. Funding value adjustment	3,421,245	4,227,255	7,648,500
3. Funding value of assets	464,632,168	574,094,748	1,038,726,916
B. Actuarial present value of expected future employer contributions			
1. For normal costs	0	1,100,629,036	1,100,629,036
2. For unfunded actuarial accrued liability	1,081,931	609,591,821	610,673,752
3. Total	1,081,931	1,710,220,857	1,711,302,788
C. Present value of expected future member contributions*	545,975,024	0	545,975,024
D. Total Present and Future Resources	\$1,011,689,123	\$2,284,315,605	\$3,296,004,728

**ACTUARIAL PRESENT VALUE OF EXPECTED FUTURE  
BENEFIT PAYMENTS AND RESERVES**

	<u>Annuities</u>	<u>Pensions</u>	<u>Total</u>
A. To retired members and beneficiaries			
1. Annual benefits	\$ 16,510,645	\$ 132,378,472	\$ 148,889,117
2. Reserve	0	0	0
3. Totals	16,510,645	132,378,472	148,889,117
B. To vested terminated members	48,478,752	18,938,010	67,416,762
C. To present active members			
1. Allocated to service rendered prior to valuation date	400,724,702	1,032,370,087	1,433,094,789
2. Allocated to service likely to be rendered after valuation date*	545,975,024	1,100,629,036	1,646,604,060
3. Total	946,699,726	2,132,999,123	3,079,698,849
D. Total Actuarial Present Value of Expected Future Benefit Payments	\$1,011,689,123	\$2,284,315,605	\$3,296,004,728

\* Based on 3% mandatory member contributions.

## **SECTION B**

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### **Historical Comparisons of Valuation Results and Data**



**COMPUTED EMPLOYER CONTRIBUTION RATES  
EXPRESSED AS PERCENTS OF PAYROLL  
HISTORICAL COMPARISON**

**CLOSED PLAN**

Valuation Date June 30	Normal Cost	Unfunded Actuarial Accrued Liability (UAAL)			Total Employer Rate
		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(a)	7.79	3.46	1.14	4.60	12.39
1995(b)	7.79	6.73	2.22	8.95	16.74
1996(b)	7.79	6.83	2.34	9.17	16.96
1997#(b)	7.44	7.07	2.26	9.33	16.77
1998(b)	7.42	7.41	2.27	9.68	17.10
1999(b)	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

(a) Based on interest-only financing of UAAL. Years prior to 1995 are also interest-only.

(b) Based on closed 40-year amortization of UAAL beginning with the 1999 valuation. Open 40-year amortization of UAAL was used for the 1995-1998 valuations. Previous years are based on interest-only financing.

# After amendments and/or revised actuarial assumptions and/or methods.

**COMPUTED EMPLOYER CONTRIBUTION RATES  
EXPRESSED AS PERCENTS OF PAYROLL  
HISTORICAL COMPARISON**

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**NEW PLAN**

<b>Valuation Date June 30</b>	<b>Normal Cost</b>	<b>Unfunded Actuarial Accrued Liability (UAAL)</b>			<b>Total Employer Rate</b>
		<b>Active and Inactive</b>	<b>Retired</b>	<b>Totals</b>	
1996(b)	7.66%	1.36%	0.00%	1.36%	9.02%
1997#(b)	7.61	1.51	0.00	1.51	9.12
1998(b)	7.61	1.46	0.00	1.46	9.07
1999(b)	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

(b) Based on closed 40-year amortization of UAAL beginning with the 1999 valuation. Open 40-year amortization of UAAL was used for the 1996-1998 valuations.

# After amendments and/or revised actuarial assumptions and/or methods.

**HISTORICAL COMPARISON  
CLOSED PLAN  
ACTUARIAL ACCRUED LIABILITY - PERCENT FUNDED**

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 1) 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 Closed Plan.

June 30	<u>Computed Actuarial Accrued Liability</u>			Valuation Assets	Portion of Accrued Liability Covered by Assets		
	(1) Member Contr.	(2) Retired Members	(3) 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	-

# Legislated plan amendments.

(a) Actuarial assumptions and/or methods revised.

**HISTORICAL COMPARISON  
NEW PLAN  
ACTUARIAL ACCRUED LIABILITY - PERCENT FUNDED**

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<b>June 30</b>	<b>Computed Actuarial Accrued Liability</b>			<b>Valuation Assets</b>	<b>Portion of Accrued Liability Covered by Assets</b>		
	<b>(1) Member Contr.</b>	<b>(2) Retired Members</b>	<b>(3) Present Members (Employer-Financed Portion) (\$ in Millions)</b>		<b>(1)</b>	<b>(2)</b>	<b>(3)</b>
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

(a) Actuarial assumptions and/or methods revised.

## CLOSED PLAN

### UNFUNDED ACTUARIAL ACCRUED LIABILITY

June 30	Computed Actuarial Accrued Liability*	Valuation Assets	Unfunded Actuarial Accrued Liability (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

## NEW PLAN

### UNFUNDED ACTUARIAL ACCRUED LIABILITY

June 30	Computed Actuarial Accrued Liability*	Valuation Assets	Unfunded Actuarial Accrued Liability (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

# Legislated plan amendments.

(a) Actuarial assumptions and/or methods revised.

\* Including annuity reserve.

The presence of unfunded actuarial accrued liability in the New Plan reflects the inclusion of transfers from the Closed Plan with prior service credit.

**RETIRED MEMBERS AND BENEFICIARIES MONTHLY ALLOWANCES AND RELATED LIABILITY  
HISTORICAL COMPARISON**

**Closed Plan**

Valuation June 30	Monthly Allowances Being Paid				Computed Liability		Reserves Available for Retired Members	Ratio of Reserves to Liability
	Number	Annuities	Pensions	Avg. Total 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

\* 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**

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**New Plan**

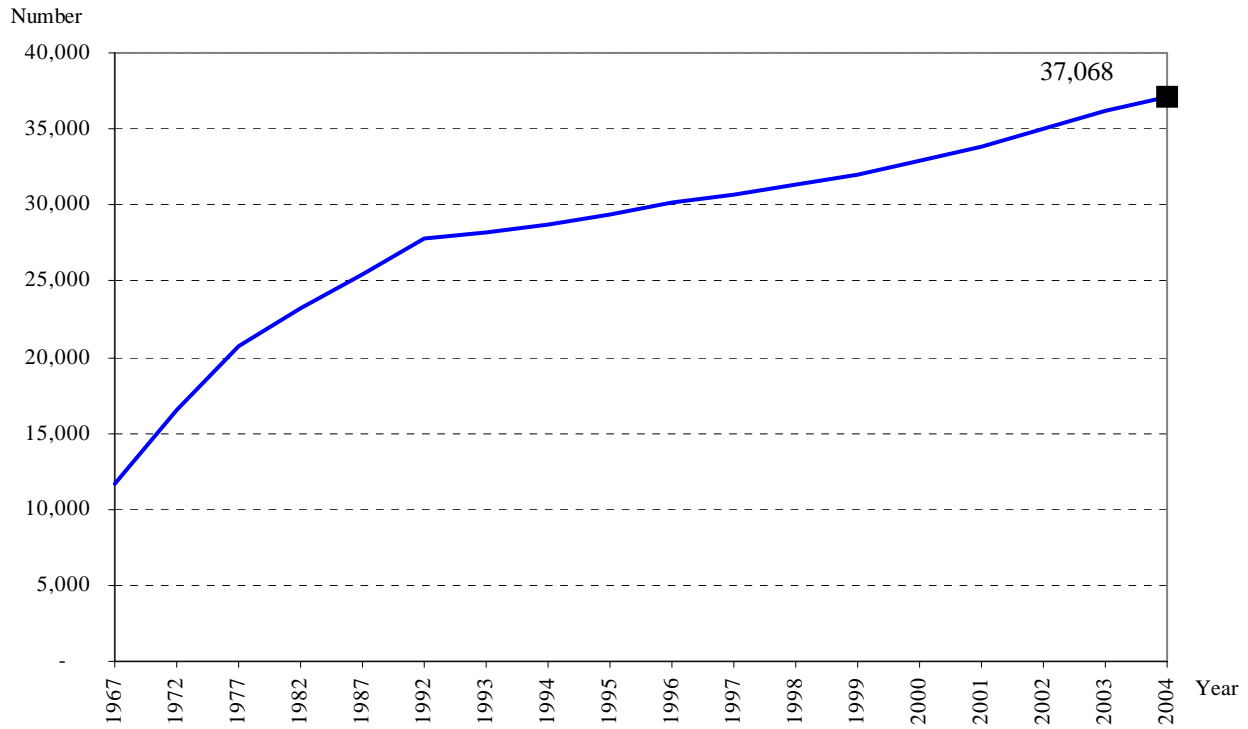
Valuation June 30	Monthly Allowances Being Paid				Computed Liability		Reserves Available for Retired Members	Ratio of Reserves to Liability
	Number	Annuities	Pensions	Avg. Total Allowances	Annuities #	Pensions		
1996	1	\$ 334	\$ 1,727	\$2,061	\$ 55,108	\$ 248,376	\$ 303,484	100.0%
1997*	1	334	1,762	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

\* Revised assumptions and/or methods.

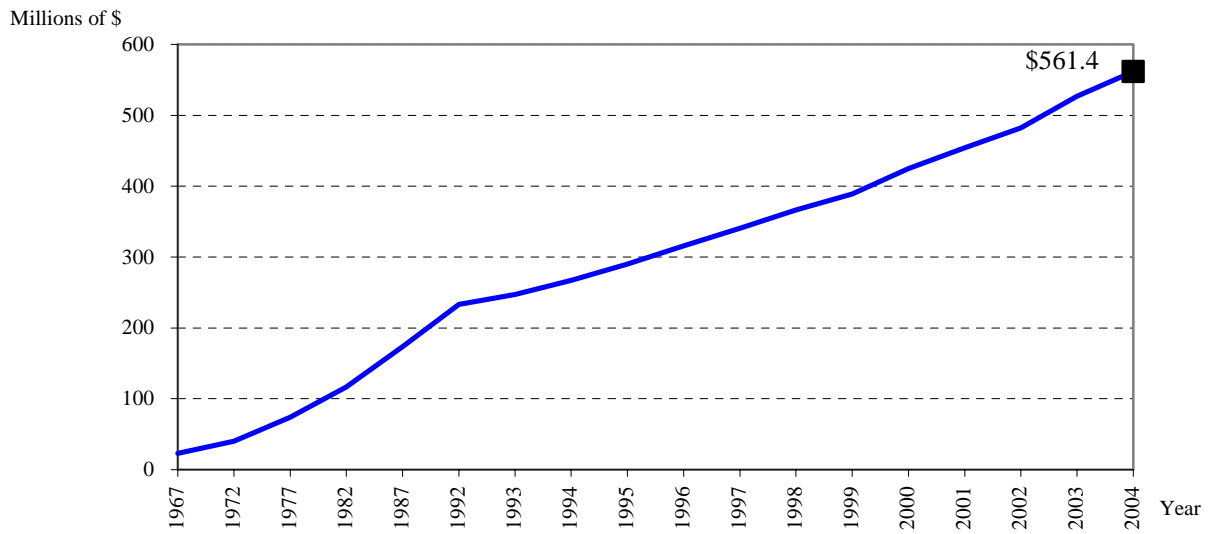
# Includes annuity reserve.

(a) Liability calculations include COLA effective the following January.

## RETIRED MEMBERS AND BENEFICIARIES RECEIVING BENEFITS



## TOTAL ANNUAL RETIREMENT ALLOWANCES BEING PAID





## ACTIVE MEMBER DATA HISTORICAL COMPARISON

Valuation Date June 30	No. of Active Members	Closed Plan			
		Valuation Payroll (+000)	Age	Averages	
				Service	Salary
1975	63,932	\$ 749,200	38.7 yrs.	10.9 yrs.	\$11,719
1977	65,573	891,780	39.0	11.2	13,600
1979	66,523	1,024,888	39.4	11.5	15,406
1980	66,575	1,107,699	39.7	11.9	16,638
1981	65,283	1,194,856	40.0	12.2	18,303
1983	64,280	1,350,061	41.1	13.3	21,003
1985	62,932	1,519,887	41.5	14.2	24,151
1987	64,157	1,751,709	42.0	14.5	27,303
1989	65,986	2,044,797	42.6	14.9	30,988
1991	63,373	2,278,715	43.0	15.4	35,957
1992	63,980	2,416,263	43.8	16.0	37,766
1993	64,594	2,536,165	44.0	16.1	39,263
1994	65,209	2,614,915	44.1	16.2	40,101
1995	66,542	2,728,811	44.2	16.2	41,009
1996	70,183	2,805,823	44.2	15.7	39,979
1997	63,520	2,739,436	45.4	16.9	43,127
1998	59,030	2,699,183	46.4	18.0	45,726
1999	56,560	2,755,489	47.4	19.3	48,718
2000	52,920	2,561,533	48.2	20.1	48,404
2001	50,802	2,564,451	48.7	20.7	50,479
2002	47,510	2,604,956	49.4	21.5	54,830
2003	43,705	2,448,271	49.6	21.7	56,018
2004	41,510	2,384,480	50.1	22.2	57,444

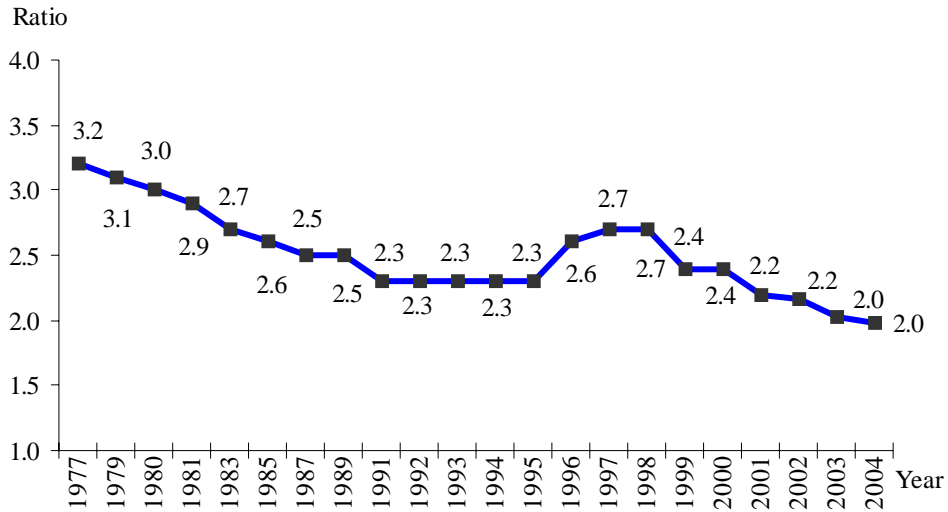
Valuation Date June 30	No. of Active Members	New Plan				
		Valuation Payroll (+000)	Age	Service	Salary	Annual Increase
1996	8,683	\$ 72,506	32.2 yrs.	1.3 yrs.	\$ 8,350	
1997	20,686	245,168	33.0	1.8	11,852	41.9%
1998	25,634	395,758	33.6	2.2	15,439	30.3
1999	21,185 *	538,837	35.3	4.0	25,435	64.7
2000	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

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

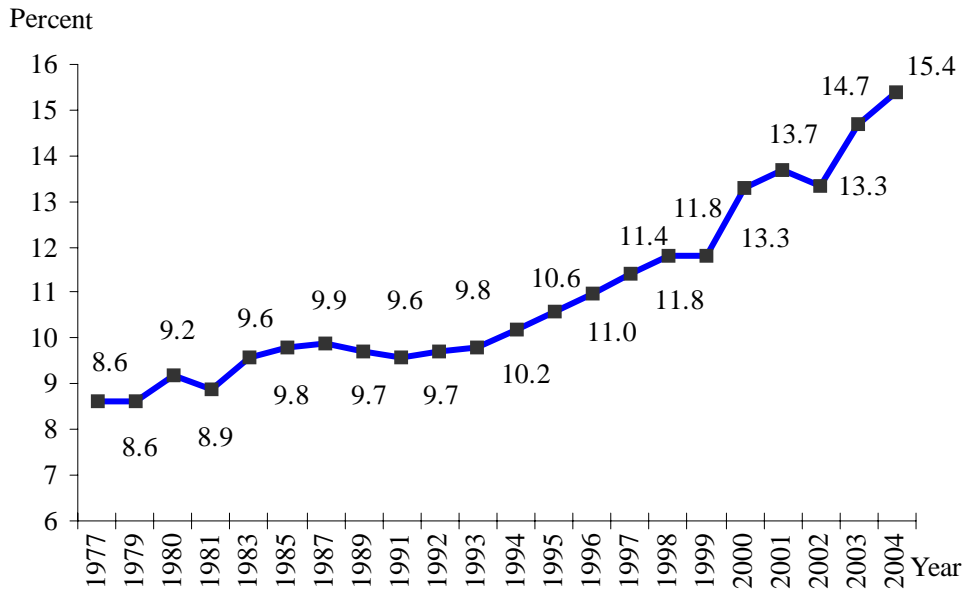
# TRF COMPARATIVE STATISTICAL RATIOS

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## ACTIVE MEMBERS PER RETIRED LIFE



## ANNUAL RETIREMENT ALLOWANCES AS A PERCENT OF VALUATION PAYROLL



# **SECTION C**

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## **Population Projections**

## CLOSED GROUP ACTUARIAL PROJECTIONS

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The schedules on the following pages 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.

The closed group New Plan projection is provided in the section for completeness. The New Plan membership will, in fact, grow in size, as members of the Closed Plan leave active status and are replaced by New Plan participants.

**CLOSED PLAN**  
**ACTIVE AND RETIRED MEMBER CLOSED GROUP PROJECTION**  
**BASED ON JUNE 30, 2004 VALUATION DATA AND ASSUMPTIONS**  
**(\$ IN MILLIONS)**

Year	Active Members		Retired Members			
	Number	Payroll	Number	State-Financed Payroll		
				Base	COLA	Total
2005	39,109	\$ 2,371.3	37,945	\$ 473.4	\$ 59.1	\$ 532.5
2006	36,771	2,349.2	39,104	502.4	59.8	562.2
2007	34,385	2,311.8	40,340	536.2	57.1	593.3
2008	31,968	2,259.5	41,656	575.0	54.3	629.3
2009	29,522	2,191.9	43,011	618.0	51.6	669.6
2010	27,089	2,111.4	44,366	663.2	48.8	712.1
2011	24,712	2,020.8	45,660	712.7	46.1	758.8
2012	22,412	1,921.3	46,908	765.3	43.5	808.8
2013	20,201	1,813.9	48,074	819.0	40.9	859.9
2014	18,129	1,703.9	49,089	871.4	38.4	909.8
2015	16,197	1,592.4	49,921	922.1	35.9	958.0
2016	14,400	1,480.2	50,583	970.7	33.5	1,004.2
2017	12,737	1,368.0	51,087	1,016.7	31.2	1,047.8
2018	11,216	1,258.3	51,389	1,058.9	28.9	1,087.9
2019	9,844	1,153.2	51,456	1,096.4	26.8	1,123.1
2020	8,607	1,052.7	51,363	1,129.5	24.7	1,154.1
2021	7,497	957.2	51,080	1,158.1	22.7	1,180.8
2022	6,503	866.4	50,637	1,182.0	20.7	1,202.8
2023	5,621	781.4	50,028	1,200.7	18.9	1,219.6
2024	4,833	701.0	49,256	1,214.6	17.2	1,231.7
2025	4,124	624.1	48,349	1,224.0	15.5	1,239.5
2026	3,490	551.1	47,318	1,229.1	13.9	1,243.0
2027	2,923	481.3	46,197	1,230.4	12.5	1,242.8
2028	2,430	417.5	44,973	1,226.9	11.1	1,238.0
2029	2,007	359.4	43,633	1,218.7	9.8	1,228.5
2030	1,641	306.4	42,210	1,206.3	8.6	1,214.9
2031	1,331	259.2	40,672	1,189.0	7.6	1,196.6
2032	1,066	216.1	39,037	1,167.6	6.6	1,174.2
2033	843	178.2	37,327	1,141.7	5.7	1,147.4
2034	658	144.8	35,568	1,111.9	4.9	1,116.8

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. The projections include an adjustment to reflect the expected future cash flow for the fiscal year ending June 30, 2005 as provided by ISTRF staff.

**CLOSED PLAN**  
**ACTIVE AND RETIRED MEMBER CLOSED GROUP PROJECTION**  
**BASED ON JUNE 30, 2004 VALUATION DATA AND ASSUMPTIONS**  
**(\$ IN MILLIONS)**

- CONTINUED -

Year	Active Members		Retired Members			
	Number	Payroll	Number	State-Financed Payroll		
				Base	COLA	Total
2035	505	\$ 115.6	33,784	\$ 1,078.7	\$ 4.2	\$ 1,082.8
2036	384	91.4	31,976	1,042.0	3.5	1,045.6
2037	286	71.0	30,145	1,002.6	3.0	1,005.6
2038	211	54.6	28,296	960.6	2.5	963.1
2039	154	41.3	26,450	916.6	2.1	918.6
2040	109	30.2	24,634	871.2	1.7	872.9
2041	75	21.7	22,856	824.6	1.4	826.0
2042	51	15.1	21,130	777.4	1.2	778.6
2043	34	10.6	19,461	729.8	1.0	730.8
2044	24	7.7	17,859	682.3	0.8	683.1
2045	16	5.5	16,328	635.5	0.6	636.2
2046	11	3.8	14,876	589.9	0.5	590.4
2047	7	2.4	13,503	545.5	0.4	545.9
2048	4	1.4	12,213	502.7	0.4	503.0
2049	2	0.8	11,009	461.5	0.3	461.8
2050	1	0.4	9,888	422.0	0.3	422.3
2051	0	0.1	8,851	384.5	0.2	384.7
2052	0	0.0	7,895	348.9	0.2	349.1
2053	0	0.0	7,017	315.4	0.2	315.5
2054	0	0.0	6,214	283.9	0.1	284.0

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. The projections include an adjustment to reflect the expected future cash flow for the fiscal year ending June 30, 2005 as provided by ISTRF staff.

**NEW PLAN**  
**ACTIVE AND RETIRED MEMBER CLOSED GROUP PROJECTION**  
**BASED ON JUNE 30, 2004 VALUATION DATA AND ASSUMPTIONS**  
**(\$ IN MILLIONS)**

Year	Active Members		Retired Members			
			State-Financed Payroll			
	Number	Payroll	Number	Base	COLA	Total
2005	29,062	\$1,273.1	925	14.6	0.4	15.0
2006	27,028	1,291.1	1,058	16.8	0.4	17.2
2007	25,425	1,316.4	1,228	19.7	0.4	20.1
2008	24,085	1,345.9	1,438	23.2	0.4	23.6
2009	22,929	1,377.9	1,692	27.5	0.4	27.9
2010	21,900	1,410.7	1,987	32.7	0.4	33.0
2011	20,949	1,442.7	2,328	38.9	0.4	39.3
2012	20,040	1,472.9	2,730	46.3	0.4	46.6
2013	19,160	1,500.3	3,204	54.9	0.4	55.2
2014	18,311	1,524.9	3,722	64.7	0.3	65.1
2015	17,480	1,546.2	4,272	75.7	0.3	76.0
2016	16,682	1,564.4	4,824	87.6	0.3	87.9
2017	15,899	1,578.5	5,399	100.6	0.3	100.9
2018	15,133	1,588.6	5,965	114.4	0.3	114.7
2019	14,392	1,595.2	6,516	128.9	0.3	129.2
2020	13,672	1,597.5	7,071	144.2	0.3	144.5
2021	12,985	1,596.5	7,599	160.1	0.3	160.4
2022	12,322	1,591.4	8,105	176.7	0.2	177.0
2023	11,678	1,581.9	8,605	194.4	0.2	194.6
2024	11,050	1,568.0	9,098	213.2	0.2	213.5
2025	10,430	1,549.4	9,585	233.6	0.2	233.8
2026	9,805	1,523.9	10,081	256.1	0.2	256.3
2027	9,167	1,489.7	10,602	281.4	0.2	281.6
2028	8,510	1,445.9	11,137	310.1	0.2	310.3
2029	7,839	1,391.8	11,698	342.2	0.1	342.3
2030	7,153	1,326.9	12,289	377.8	0.1	378.0
2031	6,460	1,251.4	12,886	416.9	0.1	417.0
2032	5,763	1,165.6	13,496	459.1	0.1	459.2
2033	5,069	1,069.8	14,113	504.0	0.1	504.1
2034	4,390	966.7	14,715	550.7	0.1	550.8

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.

**NEW PLAN**  
**ACTIVE AND RETIRED MEMBER CLOSED GROUP PROJECTION**  
**BASED ON JUNE 30, 2004 VALUATION DATA AND ASSUMPTIONS**  
**(\$ IN MILLIONS)**

- CONTINUED -

Year	Active Members		Retired Members			
	Number	Payroll	Number	State-Financed Payroll		
				Base	COLA	Total
2035	3,738	\$ 858.8	15,290	\$ 598.1	\$ 0.1	\$ 598.2
2036	3,130	750.5	15,815	644.3	0.1	644.4
2037	2,583	646.4	16,280	687.6	0.1	687.7
2038	2,100	548.3	16,654	727.1	0.0	727.2
2039	1,678	457.0	16,936	761.8	0.0	761.8
2040	1,316	373.6	17,107	790.8	0.0	790.9
2041	1,011	299.1	17,142	813.5	0.0	813.5
2042	760	234.1	17,062	829.3	0.0	829.4
2043	555	177.7	16,889	839.3	0.0	839.3
2044	394	131.2	16,635	843.2	0.0	843.2
2045	270	93.2	16,306	841.6	0.0	841.6
2046	179	63.8	15,878	834.5	0.0	834.5
2047	113	41.9	15,361	822.2	0.0	822.2
2048	67	25.3	14,805	806.0	0.0	806.0
2049	36	13.5	14,223	786.2	0.0	786.2
2050	15	5.5	13,623	763.4	0.0	763.4
2051	4	1.2	13,007	737.8	0.0	737.8
2052	0	0.0	12,379	709.7	0.0	709.7
2053	0	0.0	11,743	680.2	0.0	680.2
2054	0	0.0	11,106	649.9	0.0	649.9

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**

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### **Summary of Benefit Provisions**

## SUMMARY OF BENEFIT PROVISIONS (SUMMARY UPDATED TO JUNE 30, 2004)

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### 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 1.1% 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 follows:

- 1/10 of 1% for all months from age 60 to 65.
- 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, 2004)

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### 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)

## BENEFIT CHANGES DURING RECENT YEARS OF RETIREMENT AND RELATED CHANGES IN PURCHASING POWER

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Retiring During Year Ending	March 31 CPI	Value of \$100 in 2004 Before Accumulated Increases	Accumulated Increases	Value of \$100 in 2004 After Accumulated Increases
6/30/1955	26.9	\$14.71	295.17%	\$ 58.12
6/30/1959	29.1	15.91	265.30	58.12
6/30/1960	29.5	16.13	260.34	58.12
6/30/1961	30.0	16.40	254.34	58.12
6/30/1962	30.3	16.57	250.83	58.12
6/30/1963	30.7	16.79	246.26	58.12
6/30/1964	31.1	17.00	241.80	58.12
6/30/1965	31.5	17.22	237.46	58.12
6/30/1966	32.3	17.66	229.10	58.12
6/30/1967	33.2	18.15	220.18	58.12
6/30/1968	34.5	18.86	208.12	58.12
6/30/1969	36.3	19.85	192.84	58.12
6/30/1970	38.4	21.00	176.83	58.12
6/30/1971	40.2	21.98	164.43	58.12
6/30/1972	41.6	22.74	155.53	58.12
6/30/1973	43.6	23.84	143.81	58.12
6/30/1974	48.0	26.24	124.19	58.84
6/30/1975	53.0	28.98	122.05	64.35
6/30/1976	56.2	30.73	107.41	63.73
6/30/1977	59.8	32.70	101.45	65.86
6/30/1978	63.7	34.83	93.68	67.46
6/30/1979	70.3	38.44	84.41	70.88
6/30/1980	80.5	44.01	75.61	77.29
6/30/1981	89.0	48.66	57.80	76.79
6/30/1982	94.8	51.83	47.01	76.20
6/30/1983	98.4	53.80	42.73	76.79
6/30/1984	101.8	55.66	38.61	77.15
6/30/1985	105.9	57.90	33.27	77.16
6/30/1986	107.9	58.99	29.36	76.32
6/30/1987	111.0	60.69	28.08	77.73
6/30/1988	115.1	62.93	23.13	77.49
6/30/1989	120.8	66.05	20.72	79.73
6/30/1990	127.1	69.49	20.72	83.89
6/30/1991	133.0	72.72	18.66	86.28
6/30/1992	137.0	74.90	18.66	88.88
6/30/1993	141.1	77.15	17.48	90.63
6/30/1994	144.4	78.95	14.04	90.03
6/30/1995	148.7	81.30	14.04	92.71
6/30/1996	152.9	83.60	9.34	91.40
6/30/1997	157.0	85.84	4.06	89.32
6/30/1998	158.7	86.77	4.06	90.29
6/30/1999	161.4	88.24	4.06	91.83
6/30/2000	167.9	91.80	3.03	94.58
6/30/2001	172.6	94.37	2.01	96.27
6/30/2002	174.7	95.52	1.00	96.47
6/30/2003	180.3	98.58	0.00	98.58
6/30/2004	182.9	100.00	0.00	100.00

# **SECTION E**

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## **Details of Valuation Data**

**CLOSED PLAN**  
**RETIRED MEMBERS AND BENEFICIARIES JUNE 30, 2004**  
**MONTHLY BENEFIT AMOUNTS BY TYPE OF BENEFIT BEING PAID**

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Type of Benefit	Number	Monthly Amounts Being Paid		
		Annuities	Pensions	Total
<b>Age and Service</b>				
Option A-1 - 5 YR. CERT.				
(Regular)	7,892	\$ 1,100,412	\$ 7,989,855	\$ 9,090,267
(With Opt. A-4)	602	71,606	1,227,847	1,299,453
(S.S. After 65)	2,581	315,962	1,810,261	2,126,223
Option A-2 - S.L.				
(Regular)	4,532	779,437	5,035,807	5,815,244
(With Opt. A-4)	308	49,454	641,432	690,886
(S.S. After 65)	953	147,345	841,914	989,259
Option A-3 - CRA				
(Regular)	899	252,769	956,092	1,208,861
(With Opt. A-4)	69	34,269	137,489	171,758
(S.S. After 65)	348	75,478	261,682	337,160
Option B-1 - 100% JS				
(Regular)	7,407	1,346,097	8,875,648	10,221,745
(With Opt. A-4)	419	69,982	825,840	895,822
(S.S. After 65)	1,647	283,932	1,595,156	1,879,088
Option B-2 - 67% JS				
(Regular)	2,415	469,022	2,991,153	3,460,175
(With Opt. A-4)	121	22,063	260,134	282,197
(S.S. After 65)	663	127,668	670,142	797,810
Option B-3 - 50% JS				
(Regular)	2,626	470,822	3,091,165	3,561,987
(With Opt. A-4)	199	36,773	426,707	463,480
(S.S. After 65)	823	138,265	786,324	924,589
Survivor Beneficiary				
(Regular)	1	-	1,428	1,428
(With Opt. A-4)	-	-	-	-
(S.S. After 65)	-	-	-	-
<b>Age and Service Totals</b>	<b>34,505</b>	<b>\$ 5,791,356</b>	<b>\$38,426,076</b>	<b>\$44,217,432</b>

**CLOSED PLAN**  
**RETIRED MEMBERS AND BENEFICIARIES JUNE 30, 2004**  
**MONTHLY BENEFIT AMOUNTS BY TYPE OF BENEFIT BEING PAID**

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**(Continued)**

Type of Benefit	Number	Monthly Amounts Being Paid		
		Annuities	Pensions	Total
<b>Duty Disability (Classroom)</b>	60	-	\$ 19,641	\$ 19,641
<b>Duty Disability Totals</b>	<b>60</b>	<b>-</b>	<b>19,641</b>	<b>19,641</b>
<b>Non-Duty Disability (Regular)</b>				
Option A-1 - 5 YR. CERT.	133	\$ 13,631	\$ 133,578	\$ 147,209
Option A-2 - S.L.	68	8,424	57,622	66,046
Option A-3 - CRA	21	5,150	20,103	25,253
Option B-1 - 100% JS	231	25,737	208,200	233,937
Option B-2 - 67% JS	18	4,092	19,571	23,663
Option B-3 - 50% JS	31	4,921	28,671	33,592
<b>Non-Duty Disability Totals</b>	<b>502</b>	<b>\$ 61,955</b>	<b>\$ 467,745</b>	<b>\$ 529,700</b>
<b>Non-Duty Death (Regular)</b>				
Spouse	1,204	78,177	735,080	813,257
<b>Non-Duty Death Totals</b>	<b>1,204</b>	<b>\$ 78,177</b>	<b>\$ 735,080</b>	<b>\$ 813,257</b>
<b>Casualty Totals</b>	<b>1,766</b>	<b>\$ 140,132</b>	<b>\$ 1,222,466</b>	<b>\$ 1,362,598</b>
<b>Total Allowances Being Paid</b>	<b>36,271</b>	<b>\$ 5,931,488</b>	<b>\$39,648,542</b>	<b>\$45,580,030</b>

**NEW PLAN**  
**RETIRED MEMBERS AND BENEFICIARIES JUNE 30, 2004**  
**MONTHLY BENEFIT AMOUNTS BY TYPE OF BENEFIT BEING PAID**

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Type of Benefit	Number	Monthly Amounts Being Paid		
		Annuities	Pensions	Total
<b>Age and Service</b>				
Option A-1 - 5 YR. CERT.				
(Regular)	156	\$ 23,919	\$ 192,425	\$ 216,344
(With Opt. A-4)	37	3,604	71,522	75,126
(S.S. After 65)	35	6,099	46,086	52,185
Option A-2 - S.L.				
(Regular)	102	18,347	131,241	149,588
(With Opt. A-4)	14	1,810	28,379	30,189
(S.S. After 65)	9	2,468	9,435	11,903
Option A-3 - CRA				
(Regular)	26	9,060	29,443	38,503
(With Opt. A-4)	1	524	2,594	3,118
(S.S. After 65)	13	4,947	18,873	23,820
Option B-1 - 100% JS				
(Regular)	179	28,447	234,461	262,908
(With Opt. A-4)	22	3,288	43,687	46,975
(S.S. After 65)	30	2,876	41,989	44,865
Option B-2 - 67% JS				
(Regular)	51	5,532	74,580	80,112
(With Opt. A-4)	6	1,339	14,371	15,710
(S.S. After 65)	3	562	2,901	3,463
Option B-3 - 50% JS				
(Regular)	55	9,032	83,928	92,960
(With Opt. A-4)	6	3,184	15,676	18,860
(S.S. After 65)	8	283	11,231	11,514
<b>Age and Service Totals</b>	<b>753</b>	<b>\$ 125,321</b>	<b>\$ 1,052,822</b>	<b>\$ 1,178,143</b>



**NEW PLAN**  
**RETIRED MEMBERS AND BENEFICIARIES JUNE 30, 2004**  
**MONTHLY BENEFIT AMOUNTS BY TYPE OF BENEFIT BEING PAID**

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Type of Benefit	Number	Monthly Amounts Being Paid		
		Annuities	Pensions	Total
<b>Duty Disability (Classroom)</b>	<u>0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>
<b>Duty Disability Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Non-Duty Disability (Regular)</b>				
Option A-1 - 5 YR. CERT.	5	\$ 92	\$ 1,462	\$ 1,554
Option A-2 - S.L.	5	73	2,638	2,711
Option A-3 - CRA	1	87	310	397
Option B-1 - 100%JS	15	1,531	10,068	11,599
Option B-3 - 50%JS	<u>1</u>	<u>227</u>	<u>880</u>	<u>1,107</u>
<b>Non-Duty Disability Totals</b>	<b>27</b>	<b>\$ 2,010</b>	<b>\$ 15,358</b>	<b>\$ 17,368</b>
<b>Non-Duty Death (Regular)</b>				
Spouse	<u>17</u>	<u>897</u>	<u>10,260</u>	<u>11,157</u>
<b>Non-Duty Death Totals</b>	<b>17</b>	<b>\$ 897</b>	<b>\$ 10,260</b>	<b>\$ 11,157</b>
<b>Casualty Totals</b>	<b>44</b>	<b>\$ 2,907</b>	<b>\$ 25,618</b>	<b>\$ 28,525</b>
<b>Total Allowances Being Paid</b>	<u><b>797</b></u>	<u><b>\$128,228</b></u>	<u><b>\$1,078,440</b></u>	<u><b>\$1,206,668</b></u>

**CLOSED PLAN**  
**RETIRED MEMBERS AND BENEFICIARIES JUNE 30, 2004**  
**TABULATED BY YEAR OF RETIREMENT**

Year of Retirement	Number	Monthly Pensions	
		Total	Average
Before 1950	10	\$ 7,329	\$ 733
1950-1959	40	20,832	521
1960	15	5,146	343
1961	16	6,079	380
1962	26	7,874	303
1963	23	7,836	341
1964	37	14,431	390
1965	42	13,580	323
1966	51	17,329	340
1967	66	24,182	366
1968	92	38,882	423
1969	115	52,329	455
1970	143	66,928	468
1971	200	99,037	495
1972	240	125,379	522
1973	323	185,220	573
1974	363	200,208	552
1975	340	191,134	562
1976	399	234,514	588
1977	444	264,784	596
1978	502	309,582	617
1979	583	363,068	623
1980	642	390,460	608
1981	650	401,266	617
1982	633	397,047	627
1983	691	437,495	633
1984	761	490,135	644
1985	1,080	741,648	687
1986	874	616,594	706
1987	1,007	756,491	751
1988	1,116	892,426	800
1989	884	738,413	835
1990	1,362	1,284,068	943
1991	1,302	1,313,509	1,009
1992	1,167	1,219,673	1,045
1993	1,220	1,380,425	1,132
1994	1,361	1,562,574	1,148
1995	1,681	2,012,551	1,197
1996	1,668	2,054,973	1,232
1997	1,445	1,753,793	1,214
1998	1,801	2,266,040	1,258
1999	1,638	2,236,916	1,366
2000	1,913	2,752,006	1,439
2001	1,906	2,933,557	1,539
2002	2,179	3,406,160	1,563
2003	1,842	2,997,757	1,627
2004	1,378	2,356,883	1,710
<b>TOTALS</b>	<b>36,271</b>	<b>\$39,648,539</b>	<b>\$1,093</b>

**NEW PLAN**  
**RETIRED MEMBERS AND BENEFICIARIES JUNE 30, 2004**  
**TABULATED BY YEAR OF RETIREMENT**

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Year of Retirement	Number	Monthly Pensions	
		Total	Average
1974	1	\$ 331	\$ 331
1975	1	258	258
1981	3	1,683	561
1982	1	848	848
1985	1	870	870
1986	2	1,415	707
1987	6	4,386	731
1988	6	4,399	733
1989	6	4,108	685
1990	10	8,449	845
1991	14	10,952	782
1992	11	11,619	1,056
1993	11	9,784	890
1994	13	13,406	1,031
1995	19	20,270	1,067
1996	29	33,481	1,155
1997	28	30,937	1,105
1998	38	40,815	1,074
1999	48	61,827	1,288
2000	69	80,370	1,165
2001	87	118,659	1,364
2002	120	184,503	1,538
2003	172	279,639	1,626
2004	101	155,430	1,539
<b>TOTALS</b>	<b>797</b>	<b>\$1,078,439</b>	<b>\$1,353</b>

**CLOSED PLAN**  
**MONTHLY RETIREMENT ALLOWANCES BY ATTAINED AGE**  
**AS OF JUNE 30, 2004**

---

Attained Ages	Men		Women		Totals	
	Number	Monthly Allowances	Number	Monthly Allowances	Number	Monthly Allowances
UNDER 20	-	-	-	-	-	-
20 - 24	-	-	-	-	-	-
25 - 29	-	-	-	-	-	-
30 - 34	-	-	-	-	-	-
35 - 39	-	\$ -	1	\$ 324	1	\$ 324
40 - 44	4	2,439	9	2,387	13	4,826
45 - 49	11	6,486	45	22,708	56	29,194
50 - 54	93	67,499	225	143,015	318	210,514
55 - 59	1,279	2,349,586	1,928	3,261,119	3,207	5,610,705
60 - 64	2,564	4,419,660	3,699	5,375,329	6,263	9,794,989
65 - 69	2,824	4,546,705	3,756	4,833,417	6,580	9,380,122
70 - 74	2,715	4,027,526	3,227	3,724,930	5,942	7,752,456
75 - 79	2,303	2,953,620	2,933	2,796,089	5,236	5,749,709
80 - 84	1,582	1,639,649	2,164	1,711,603	3,746	3,351,252
85 - 89	834	739,846	1,861	1,313,490	2,695	2,053,336
90 - 94	462	384,977	1,023	710,702	1,485	1,095,679
95 - 99	188	151,373	394	291,478	582	442,851
Over 100	72	49,627	75	54,446	147	104,073
<b>Totals</b>	<b>14,931</b>	<b>\$21,338,993</b>	<b>21,340</b>	<b>\$24,241,037</b>	<b>36,271</b>	<b>\$45,580,030</b>

**NEW PLAN**  
**MONTHLY RETIREMENT ALLOWANCES BY ATTAINED AGE**  
**AS OF JUNE 30, 2004**

---

Attained Ages	Men		Women		Totals	
	Number	Monthly Allowances	Number	Monthly Allowances	Number	Monthly Allowances
UNDER 20	-	-	-	-	-	-
20 - 24	-	-	-	-	-	-
25 - 29	-	-	-	-	-	-
30 - 34	-	-	-	-	-	-
35 - 39	1	\$ 353	1	\$ 201	2	\$ 554
40 - 44	1	545	2	1,006	3	1,551
45 - 49	6	2,879	1	751	7	3,630
50 - 54	11	8,221	18	11,461	29	19,682
55 - 59	96	188,666	104	173,905	200	362,571
60 - 64	133	262,635	128	193,328	261	455,963
65 - 69	77	114,884	102	116,108	179	230,992
70 - 74	30	38,510	39	42,414	69	80,924
75 - 79	16	21,221	18	16,454	34	37,675
80 - 84	5	5,026	4	4,117	9	9,143
85 - 89	3	3,393	-	-	3	3,393
90 - 94	-	-	1	590	1	590
95 - 99	-	-	-	-	-	-
Over 100	-	-	-	-	-	-
<b>Totals</b>	<b>379</b>	<b>\$646,333</b>	<b>418</b>	<b>\$560,335</b>	<b>797</b>	<b>\$1,206,668</b>

**CLOSED PLAN INACTIVE VESTED MEMBERS  
AS OF JUNE 30, 2004  
BY ATTAINED AGE AND YEARS OF SERVICE**

---

Attained Age	Years of Service to Valuation Date							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
30-34			16					16
35-39			176	9	1			186
40-44			275	105	7			387
45-49			259	165	84	18	1	527
50-54			417	249	180	138	43	1,027
55-59			411	314	208	131	82	1,146
60			76	41	16	8	9	150
61			81	20	11	2	12	126
62			67	24	10	5	6	112
63			43	15	7	5	4	74
64			46	15	6	3	4	74
65			33	16	6	1	1	57
66			19	7	6	1	2	35
67			16	10	5	8	2	41
68			9	10	7	2	1	29
69			11	6	4	3	3	27
70			12	6	5	1	3	27
71			15	5	2	4	3	29
72			8	10	7	4	4	33
73			15	8	5	2	4	34
74			7	10	8	4	3	32
75			6	6	5	1	7	25
76			4	6	9	3	4	26
77			10	6	9	5	5	35
78			11	8	6	6	1	32
79 & Over			56	41	36	26	38	197
<b>Totals</b>	<b>-</b>	<b>-</b>	<b>2,099</b>	<b>1,112</b>	<b>650</b>	<b>381</b>	<b>242</b>	<b>4,484</b>

Average Age: 55.6 years  
Average Service: 17.0 years

**NEW PLAN INACTIVE VESTED MEMBERS  
AS OF JUNE 30, 2004  
BY ATTAINED AGE AND YEARS OF SERVICE**

---

Attained Age	Years of Service to Valuation Date							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
30-34			16					16
35-39			70	2				72
40-44			91	20	6			117
45-49			77	37	15	2		131
50-54			81	54	38	18	3	194
55-59			77	41	29	17	6	170
60			11	2	5	1	1	20
61			17	2	1			20
62			8	2	1	1	1	13
63			9	3				12
64			1					1
65			2			1		3
66			1		1			2
67			1					1
69			1					1
70			1					1
71				1				1
77							1	1
<b>Totals</b>	<b>-</b>	<b>-</b>	<b>464</b>	<b>164</b>	<b>96</b>	<b>40</b>	<b>12</b>	<b>776</b>

Average Age: 50.0 years  
Average Service: 15.3 years

**CLOSED PLAN ACTIVE MEMBERS  
AS OF JUNE 30, 2004  
BY ATTAINED AGE AND YEARS OF SERVICE**

Attained Age	Years of Service to Valuation Date							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
20-24	112							112
25-29	404	104						508
30-34	160	656	676	2				1,494
35-39	124	295	2,020	692	4			3,135
40-44	99	195	931	2,372	810	2		4,409
45-49	97	212	899	1,401	2,322	1,562	4	6,497
50-54	89	233	1,019	1,502	1,518	4,594	2,649	11,604
55-59	47	112	570	1,167	1,318	1,587	5,117	9,918
60	1	11	68	113	125	161	556	1,035
61	6	9	48	74	114	131	484	866
62	4	10	50	53	68	82	361	628
63		6	27	32	39	57	228	389
64	5	9	13	25	29	34	173	288
65	4	3	9	18	19	17	131	201
66	1	1	4	10	11	17	80	124
67	1	1	5	7	3	3	53	73
68	1	1	5	6	4	3	39	59
69	2	1	3	1	1	4	26	38
70	3	3	2	1	3	3	26	41
71	2		1		1	2	15	21
72		1	2			2	9	14
73	1	2	4		1		13	21
74			2				7	9
75	1	1			1	2	2	7
76			1				1	2
77				1			4	5
78						1	1	2
79 & Over		2			1	5	2	10
<b>Totals</b>	<b>1,164</b>	<b>1,868</b>	<b>6,359</b>	<b>7,477</b>	<b>6,392</b>	<b>8,269</b>	<b>9,981</b>	<b>41,510</b>

Average Age: 50.1 years  
Average Service: 22.2 years



**NEW PLAN ACTIVE MEMBERS  
AS OF JUNE 30, 2004  
BY ATTAINED AGE AND YEARS OF SERVICE**

Attained Age	Years of Service to Valuation Date							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
15-19	2							2
20-24	1,598	1						1,599
25-29	6,067	1,809						7,876
30-34	1,912	4,337	424	2				6,675
35-39	1,164	1,678	940	166	3			3,951
40-44	1,070	1,137	469	476	114	1		3,267
45-49	944	1,155	421	284	294	121	1	3,220
50-54	609	908	446	318	203	314	146	2,944
55-59	368	441	263	197	114	120	258	1,761
60	44	32	20	15	16	10	26	163
61	30	29	20	12	5	6	14	116
62	40	27	13	9	5	3	10	107
63	25	18	7	3	5	2	9	69
64	24	16	6	5	7	4	7	69
65	19	8	5	3	2	1	3	41
66	9	6	1	1			1	18
67	7	12	1	3	1	1		25
68	16	5	1			1	1	24
69	10	5		1	1			17
70	6	3					1	10
71	3	4			1			8
72	8	4	1					13
73	2					1		3
74	6	1						7
75	5		1					6
76	2	2						4
77		1						1
79 & Over		2			2			4
<b>Totals</b>	<b>13,990</b>	<b>11,641</b>	<b>3,039</b>	<b>1,495</b>	<b>773</b>	<b>585</b>	<b>477</b>	<b>32,000</b>

Average Age: 37.3 years  
Average Service: 6.9 years

# **SECTION F**

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**Disclosures Required by  
GASB Statements No. 25 and No. 27**

**GASB STATEMENTS NO. 25 AND NO. 27**  
**REQUIRED SUPPLEMENTARY INFORMATION**

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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	June 30, 2004
Actuarial Cost Method	Entry Age Actuarial Cost Method
Amortization method	Level Percent of Pay Closed
Amortization period	30 Years
Asset valuation method	4-year smoothed market value with corridor
Actuarial assumptions:	
Investment rate of return	7.50%
Projected salary increases*	4.50% -15.50%
*Includes wage inflation at	4.50%
Cost-of-living adjustments	Unscheduled, periodic increases

Membership in the plan consisted of the following at June 30, 2004, the date of the latest actuarial valuation:

	<u>Totals</u>
Retired members and beneficiaries receiving benefits	37,068
Terminated plan members entitled to but not yet receiving benefits	
Vested	5,260
Non-Vested	31,472
Active plan members	<u>73,510</u>
Totals	147,310

**GASB STATEMENTS NO. 25 AND NO. 27**  
**REQUIRED SUPPLEMENTARY INFORMATION**

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*Schedule of Funding Progress*

Actuarial Valuation Date June 30	Actuarial Value of Assets (a)	Actuarial Liability (AAL) -- Entry-Age -- (b)	Unfunded AAL (UAAL) (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	UAAL as a % of Covered Payroll [(b) - (a)] / (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

\* Revised benefits and/or actuarial assumptions and/or methods.

*Schedule of Employer Contributions*

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

**GASB STATEMENTS NO. 25 AND NO. 27**  
**STATEMENT OF CHANGES IN PLAN NET ASSETS, 2003-2004**

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<b>Net Assets at Beginning of Year</b>	<b>\$ 6,148,027,008</b>
Additions	
Contributions	
Member Contributions	\$ 115,832,926
Employer Contributions	408,180,342
Employer Contributions - Pension Stabilization	30,000,000
Total Contributions	\$ 554,013,268
Investments	
Net Appreciation (Depreciation) in Fair Value	\$ 547,774,850
Interest Income	135,319,501
Dividend Income	49,988,443
Securities Lending Income	12,566,565
Less Investment Expense	
Investment Fees	(12,538,435)
Securities Lending Fees	(10,016,828)
Net Investment Income	\$ 723,094,096
Other Additions	
Transfers From Other Retirement Funds	\$ 2,781,420
Annuity and Disability Refunds	1,421,570
Outdated Benefit Checks	(22,006)
Reimbursement of Administrative Expense	1,630
Total Other Additions	\$ 4,182,614
Total Additions	\$ 1,281,289,978
Deductions	
Annuity and Disability Benefits	\$ 655,329,910
Voluntary and Death Withdrawals	9,703,864
Claims on Outdated Benefit Checks	0
Administrative Expenses	5,001,915
Capital Projects	2,600,246
Depreciation Expenses	25,622
Transfers to Other Retirement Funds	2,363,876
Total Deductions	\$ 675,025,433
Change in Net Assets Held in Trust for Pension Benefits	\$ 606,264,545
<b>Net Assets at End of Year</b>	<b>\$ 6,754,291,553</b>

**GASB STATEMENTS NO. 25 AND NO. 27**  
**STATEMENT OF PLAN NET ASSETS, JUNE 30, 2004**

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**Assets**

Cash and Cash Equivalents	\$ 511,385,212
Securities Lending Collateral	\$1,186,186,105
Receivables	
Employer Contributions	\$ 23,598,251
Due from PERF	10,260,559
Member Contributions	28,672,912
Due from Lottery Commission	0
Securities Sold	701,985,536
Investments Interest	28,828,151
Total Receivables	\$ 793,345,409
Investments	
U.S. Treasury and Agency Obligations	\$ 996,666,315
Corporate Bonds and Notes	899,076,609
Foreign Bonds	28,801,048
Equity Securities	2,727,287,833
Foreign Equity Securities	777,892,959
Mortgage Securities	766,269,815
Venture Capital & Partnerships	31,582,464
State & Municipal Securities	2,264,701
Debt Securities	220,012,007
Indiana Pension Systems, Inc.	500,000
Real Estate	260,000
Total Investments	\$6,450,613,751
Furniture and Equipment	79,034
Insurance Premium Paid in Advance	27
Total Assets	\$8,941,609,538
<b>Liabilities</b>	
Accrued Benefits Payable	\$ 0
Accrued Salaries Payable	88,841
Accrued Liability for Compensated Absences - Current	172,046
Accounts Payable	2,877,956
Due to PERF	7,447,627
Securities Lending Collateral	1,186,186,106
Payables for Securities Purchased	990,420,824
Total Current Liabilities	\$2,187,193,400
Accrued Liability for Compensated Absences - Long-Term	124,585
Total Liabilities	\$2,187,317,985
<b>Net Assets Held in Trust for Pension Benefits</b>	<b>\$6,754,291,553</b>

# **SECTION G**

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## **Actuarial Assumptions, Methods and Definitions**

## SUMMARY OF ASSUMPTIONS AND METHODS USED FOR ISTRF ACTUARIAL VALUATION

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The assumptions used in this valuation were adopted for the June 30, 2004 valuation following a 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 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.

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

## SINGLE LIFE RETIREMENT VALUES

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Sample Attained Ages	Present Value of \$1 Monthly for Life		Future Life Expectancy (years)	
	Males	Females	Males	Females
45	\$150.38	\$152.18	38.46	40.38
50	144.94	147.28	33.74	35.62
55	138.13	141.02	29.18	30.98
60	129.80	133.35	24.82	26.55
65	119.40	123.85	20.64	22.29
70	106.72	112.02	16.69	18.23
75	92.80	98.44	13.18	14.52
80	78.28	84.17	10.15	11.31
Ref:	#166sb3x1	#167sb0x1		

Sample Attained Ages	Portion of Age 55 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

## POST-RETIREMENT MORTALITY

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	#167sb0x1	#166sb-7x1	#167sb-10x1

**PROBABILITIES OF AGE AND SERVICE RETIREMENT  
FOR MEMBERS ELIGIBLE TO RETIRE**

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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 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 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
59	0.0096	0.0140
60	0.0096	0.0140
Ref	#202 x 0.8	#203 x 1

**DISABILITY RATES  
PRIOR TO ELIGIBILITY FOR RETIREMENT**

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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

## PAY INCREASE ASSUMPTIONS FOR AN INDIVIDUAL MEMBER

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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

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Marriage Assumption:	100% of members are assumed to be married for purposes of valuing death-in-service benefits.
Pay Increase Timing:	Beginning of (fiscal) year. Payroll amounts stated in the valuation data are amounts actually paid during the prior year.
Decrement Timing:	Retirement decrements are assumed to occur at the beginning of the year, other decrements are assumed to occur mid-year.
Eligibility Testing:	Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
Benefit Service:	Exact fractional service is used to determine the amount of benefit payable.
Decrement Relativity:	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
Other:	Disability and withdrawal decrements do not operate after member reaches retirement eligibility. Only the withdrawal decrement operates during the first 5 years of service.
Miscellaneous Adjustments:	The calculated normal, early retirement and vested deferred liabilities and normal costs were increased by 1% to account for the inclusion of unused sick leave in the calculation of Average Compensation.
Actuarial Equivalence Basis for Optional Forms of Payment:	7.5% interest with a 40%/60% unisex blend of the 1983 Group Annuity Mortality table set back 3 years and the 1983 Group Annuity Mortality Table set back 7 years.



## **DEFINITIONS OF TECHNICAL TERMS**

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**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)**

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**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**

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## **Financial Principles**

## **FUNDING OBJECTIVE**

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The funding objective of ISTRF 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 **Closed Plan** 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 **New Plan** 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 Closed Plan:**

1. Active membership in the Closed Plan 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 New Plan.
2. The pension benefits from the Closed Plan are funded by State appropriations (including short-term contributions of some revenue from the State Lottery). Annuity benefits payable from the Closed Plan are funded by the annuitization of Closed Plan member contributions at the time of retirement.

#### **Characteristics of the New Plan:**

1. As members depart from active service in the Closed Plan, their replacements will become members of the New Plan. If the New Plan were a stand-alone plan, this pattern of departures and hirings would produce a fairly constant population size. However, overall active membership in the New Plan is expected to increase over time due to the following factors:
  - (a) As Closed Plan members depart from active service, their replacements will become members of the New Plan; 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 New Plan member.
2. The result of an expanding membership in the New Plan is growth in the New Plan payroll. The expanding New Plan population and payroll present challenges to level percent-of-payroll funding.
3. Pension benefits payable from the New Plan are funded by contributions from local school corporations or other institutions that employ covered members. Annuity benefits payable at retirement from the New Plan are funded by New Plan members.

## PLAN STRUCTURES AND FUNDING ARRANGEMENTS (CONTINUED)

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### **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 Closed Plan continue to be funded on this basis. In 1995, the Pension Stabilization Fund was set up for the Closed Plan.

Since then, some pre-funding progress has been made via State appropriations to this Fund. Pension benefits payable from the New Plan 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 9.0% was set by the Board in November 2000. Under the direction of the State Legislature, the contribution rate will remain at this level at least until the fiscal year 2006-2007.

Many PERS 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 cost of the fund to the taxpayers 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 inter-generational equity between generations of taxpayers will be compromised.

## THE ACTUARIAL VALUATION PROCESS

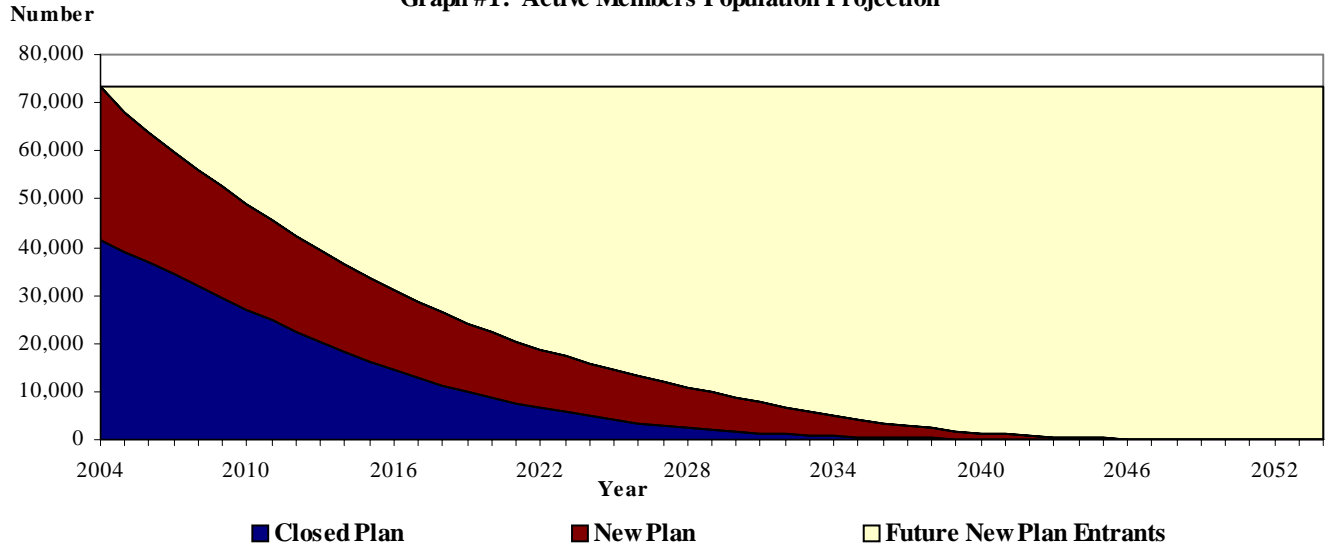
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*The actuarial valuation* is the mathematical process by which a contribution rate is determined. The flow of activity constituting the valuation may be summarized as follows:

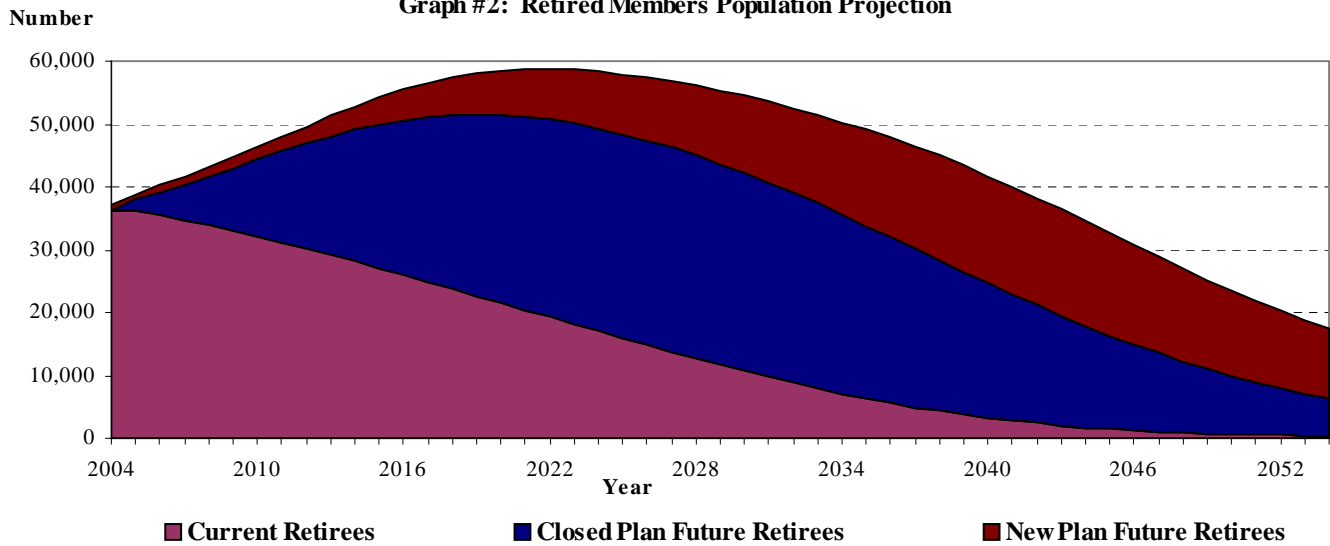
- A.    **Covered Person Data**, furnished by the plan administrator
  - Retired members and beneficiaries now receiving benefits
  - Former employees with vested benefits not yet payable
  - Active employees
  
- B. +   **Asset data (cash and investments)**, furnished by the plan administrator
  
- 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 PROJECTIONS

**Graph #1: Active Members Population Projection**



**Graph #2: Retired Members Population Projection**



The graphs above show closed group projections of the number of active members and retired members that are expected to be in those two categories in the future.

The projection depicted in Graph #1 indicates that by 2015, only half of the current active population will remain.

The projected retired population levels shown in Graph #2 are developed from the current retired population, the addition of new retired members from the active population, and mortality assumptions. The projection indicates that around 2023 the Closed Plan retired population will peak. Note that this graph does not include future retirements of active members that will be hired in the future. If it did, the graph would not be a “hill”, but would plateau.



**GABRIEL, ROEDER, SMITH & COMPANY**  
Consultants & Actuaries

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One Towne Square ● Suite 800 ● Southfield, Michigan 48076 ● 248-799-9000 ● 800-521-0498 ● fax 248-799-9020

February 9, 2005

Dr. William Christopher  
Executive Director  
Indiana State Teachers' Retirement Fund  
150 West Market Street, Suite 300  
Indianapolis, Indiana 46204-2809

Dear Dr. Christopher:

Enclosed are 45 copies of the actuarial valuation of active and inactive members and retired lives of ISTRF as of June 30, 2004.

We would be pleased to meet with the Retirement Board to review the report.

Sincerely,

A handwritten signature in black ink that reads "Judith A. Kermans". The signature is fluid and cursive, with the first name being the most prominent.

Judith A. Kermans

KGA:clb:lr  
Enclosures

cc: McCready and Keene, Inc.  
Mary Beth Braitman  
Kenneth G. Alberts  
Brian B. Murphy