

PUBLIC EMPLOYEES'  
RETIREMENT FUND OF INDIANA  
ACTUARIAL VALUATION  
JULY 1, 2002

PUBLIC EMPLOYEES'  
RETIREMENT FUND OF INDIANA

ACTUARIAL VALUATION

VALUATION DATE

July 1, 2002

VALUATION YEAR

July 1, 2002 - June 30, 2003

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PUBLIC EMPLOYEES' RETIREMENT FUND  
OF INDIANA

Summary of Actuarial Valuation as of July 1, 2002

Introduction

As of the valuation date there were 143,234 active members, 51,092 pensioners and 11,572 terminated members entitled to future benefits. See the exhibit labeled Summary of Employee Data for a breakdown of the members between state employees and employees of political subdivisions.

We have established the following contributions as of July 1, 2002:

	With Fresh Start and 4-Year Phase-In		
	State	Political Subdivisions	Total
Total Annual Cost	\$ 79,641,040	\$ 137,435,808	\$ 217,076,848
Cost as Percentage of Anticipated Payroll (Interest adjusted to mid-year)	5.6%	6.2%	5.9%

This Valuation is the first to reflect census data as reported by a new database system. The previous database system reported salaries on a calendar year basis and reported service through the March 31 preceding the valuation date. The new database system reports both salary and service on a fiscal year basis. Also, the new database system may have created an increase of about \$70 million in liabilities associated with prior service earned by active members. Due to the fiscal impact of the more current data, this valuation has been prepared in such a manner as to phase-in the changes brought about by the new database system over a four-year period on a pro rata basis. This phase-in will ease the transition to the census data reporting by the new database system.

This Valuation also reflects a fresh start of the amortization of unfunded actuarial accrued liabilities. Previous valuations reflected amortizations that began with an Initial Unfunded Liability established in 1975. Additional amortization bases were added in the years following, primarily reflecting actuarial experience gains and losses but also reflecting changes in actuarial methods and assumptions and changes in plan provisions. By fresh starting the amortization of unfunded actuarial accrued liabilities over a 30-year closed period, the Fund will be able to utilize currently the cost savings of future favorable amortization amounts.

## Introduction, Continued

This report reflects the plan provisions in effect as of July 1, 2002. Refer to the exhibit titled Summary of Major Plan Provisions for a brief description of benefits provided by this plan.

The Total Annual Cost is composed of employer normal cost of \$211,585,962 and an amortization payment of \$5,490,886. As of July 1, 2002, the Unfunded Actuarial Accrued Liability is \$71,278,179. A breakdown and a comparison with the results of the prior valuation is provided in the exhibit titled Contribution Breakdown and Comparison.

The Total Annual Cost for 2002, as a percent of anticipated payroll increased to 5.9% as compared to 5.1% for 2001. The Fund had experience losses primarily from investments yielding less than the assumed 7.25% (estimated return for the 2001 plan year was 3.3% on an actuarial value basis). In terms of actual dollars, the Total Annual Cost increased by \$41,257,305 from \$175,819,543 for the 2001 plan year to \$217,076,848 for the 2002 plan year.

## Actuarial Methods and Assumptions

The Entry Age Normal Cost Method was continued for determining the cost of retirement benefits, death benefits, disability benefits, and termination benefits. Valuation assets continue to be developed on an actuarial basis.

The actuarial assumptions used in this Valuation have been reviewed and continued from the prior Valuation.

A brief explanation of the methods and a complete summary of the assumptions used may be found in the exhibits titled Actuarial Methods and Actuarial Assumptions.

## Valuation Data and Disclaimer

The valuation census data was provided by the Public Employees' Retirement Fund and transposed into a computer file for processing. Similar information has been furnished to us in the past, and the accuracy of this report depends on the accuracy of all data that has been furnished to us from time to time. Trust information was also furnished by the Public Employees' Retirement Fund. It is noted that we make no representation concerning the accuracy of any employee data or valuation information that has been furnished to us.

### Valuation Data and Disclaimer, Continued

The Valuation has been prepared for the sole purpose of determining the contribution requirements for the respective plan year and for providing accounting data to meet the requirements of GASB #25 and #27. The figures in this Valuation should not be used as the basis for any other purpose for which it was not designed.

### Summary of Trust Experience

Using market value, the assets consist of 47.2% in common stock, 13.3% in corporate bonds and notes, 12.0% in U.S. Treasury and Agency Obligations, 11.7% in mortgage securities, 10.7% in international stock and foreign bonds, 6.9% in cash and cash equivalents, 0.1% in real estate investments and negative 1.9% in net receivables and liabilities. Based on the actuarial value, the entire asset portfolio had net investment income for the 2001 plan year that resulted in an estimated yield of 3.3%. See the exhibit labeled Ten Year Historical Investment Experience for more detail.

We will be pleased to furnish any additional information or answer any questions which may arise after your review of this report.

## ACTUARIAL CERTIFICATION

The information and valuation results shown in this report are, to the best of my knowledge, complete and accurate and are based upon:

1. Employee census data as of July 1, 2002 submitted by the Director of the Public Employees' Retirement Fund. Although we did not audit this data, it appears to be sufficient and reliable for purposes of the report.
2. Financial data as of July 1, 2002 submitted by the Director of the Public Employees' Retirement Fund. Although we did not audit this data, it appears to be sufficient and reliable for purposes of the report.
3. Actuarial assumptions which, in the aggregate, are reasonably related to the experience of the plan and to reasonable expectations, and which represent our best estimate of anticipated experience under the plan.
4. Actuarial methods as stated in the report and our interpretation of plan provisions as summarized in the report.

Sincerely,

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Douglas Todd  
A.S.A., M.A.A.A., E.A.  
Senior Actuary

SUMMARY OF CONTRIBUTIONS

	July 1, 2002		
	State	Political Subdivisions	Total
	<i>With Fresh Start and 4-Year Phase-in</i>		
TOTAL ANNUAL COST	\$ 79,641,040	\$ 137,435,808	\$ 217,076,848
COST AS PERCENTAGE OF ANTICIPATED PAYROLL*	5.6%	6.2%	5.9%

	July 1, 2002		
	State	Political Subdivisions	Total
	<i>Prior to Fresh Start and 4-Year Phase-in</i>		
TOTAL ANNUAL COST	\$ 94,181,644	\$ 148,776,633	\$ 242,958,277
COST AS PERCENTAGE OF ANTICIPATED PAYROLL*	6.5%	6.6%	6.5%

\*Interest adjusted for mid-year contribution

CONTRIBUTION BREAKDOWN AND COMPARISON

**With Fresh Start and 4-Year Phase-in**

	<u>July 1, 2002</u>		
	<u>State</u>	<u>Political Subdivisions</u>	<u>Total</u>
TOTAL ANNUAL COST			
Employer Normal Cost	\$ 83,616,958	\$ 127,969,004	\$ 211,585,962
Amortization of Unfunded Actuarial Liability	(3,975,918)	9,466,804	5,490,886
Total	\$ 79,641,040	\$ 137,435,808	\$ 217,076,848
ANTICIPATED PAYROLL	\$ 1,475,076,791	\$ 2,310,165,016	\$ 3,785,241,807
TOTAL ANNUAL COST AS % OF ANTICIPATED PAYROLL (Interest Adjusted for Mid-Year Contribution)	5.6%	6.2%	5.9%

DEVELOPMENT OF UNFUNDED ACTUARIAL LIABILITY

**With Fresh Start and 4-Year Phase-in**

	<u>July 1, 2002</u>		
	<u>State</u>	<u>Political Subdivisions</u>	<u>Total</u>
Actuarial Accrued Liability			
- Active Members	\$ 1,899,604,451	\$ 2,483,743,495	\$ 4,383,347,946
- Terminated Members	110,573,395	103,937,268	214,510,663
Total	\$ 2,010,177,846	\$ 2,587,680,763	\$ 4,597,858,609
Less: Non-Retired Member Assets	2,061,789,940	2,464,790,490	4,526,580,430
Equals: Actual Unfunded Actuarial Accrued Liability (UAAL)	\$ (51,612,094)	\$ 122,890,273	\$ 71,278,179

CONTRIBUTION BREAKDOWN AND COMPARISON, Continued

**Prior to Fresh Start and 4-Year Phase-in**

	July 1, 2002		
	State	Political Subdivisions	Total
TOTAL ANNUAL COST			
Employer Normal Cost	\$ 84,580,744	\$ 129,387,950	\$ 213,968,694
Amortization of Unfunded Actuarial Liability	9,600,900	19,388,683	28,989,583
Total	\$ 94,181,644	\$ 148,776,633	\$ 242,958,277
ANTICIPATED PAYROLL	\$ 1,501,201,217	\$ 2,350,559,741	\$ 3,851,760,958
TOTAL ANNUAL COST AS % OF ANTICIPATED PAYROLL (Interest Adjusted for Mid-Year Contribution)	6.5%	6.6%	6.5%

DEVELOPMENT OF UNFUNDED ACTUARIAL LIABILITY

**Prior to Fresh Start and 4-Year Phase-in**

	July 1, 2002		
	State	Political Subdivisions	Total
Actuarial Accrued Liability			
- Active Members	\$ 2,011,340,391	\$ 2,566,901,294	\$ 4,578,241,685
- Terminated Members	112,438,640	105,579,980	218,018,620
Total	\$ 2,123,779,031	\$ 2,672,481,274	\$ 4,796,260,305
Less: Non-Retired Member Assets	2,061,789,940	2,464,790,490	4,526,580,430
Equals: Actual Unfunded Actuarial Accrued Liability (UAAL)	\$ 61,989,091	\$ 207,690,784	\$ 269,679,875
Unfunded Actuarial Accrued Liability, Prior Year	\$ (167,121,220)	\$ (250,510,886)	\$ (417,632,106)
Less: Amortization of Unfunded Actuarial Liability, Prior Year	(7,234,726)	(14,320,368)	(21,555,094)
Plus: Interest for Full Year at 7.25%	(11,591,771)	(17,123,813)	(28,715,583)
Plus: Increase (Decrease) Due to Change in Actuarial Assumptions	0	0	0
Equals: Expected Unfunded Actuarial Accrued Liability (UAAL)	\$ (171,478,265)	\$ (253,314,331)	\$ (424,792,595)
Experience (Gain)/Loss [Actual UAAL-Expected UAAL]	\$ 233,467,356	\$ 461,005,115	\$ 694,472,471

CONTRIBUTION BREAKDOWN AND COMPARISON, Continued

	July 1, 2001		
	State	Political Subdivisions	Total
TOTAL ANNUAL COST			
Employer Normal Cost	\$ 79,567,647	\$ 117,806,990	\$ 197,374,637
Amortization of Unfunded Actuarial Liability	(7,234,726)	(14,320,368)	(21,555,094)
Total	\$ 72,332,921	\$ 103,486,622	\$ 175,819,543
ANTICIPATED PAYROLL	\$ 1,429,768,169	\$ 2,157,311,469	\$ 3,587,079,638
TOTAL ANNUAL COST AS % OF ANTICIPATED PAYROLL (Interest Adjusted for Mid-Year Contribution)	5.2%	5.0%	5.1%

DEVELOPMENT OF UNFUNDED ACTUARIAL LIABILITY

	July 1, 2001		
	State	Political Subdivisions	Total
Actuarial Accrued Liability			
- Active Members	\$ 1,801,648,634	\$ 2,204,246,049	\$ 4,005,894,683
- Terminated Members	94,857,110	49,886,261	144,743,371
Total	\$ 1,896,505,744	\$ 2,254,132,310	\$ 4,150,638,054
Less: Non-Retired Member Assets	2,063,626,964	2,504,643,196	4,568,270,160
Equals: Actual Unfunded Actuarial Accrued Liability (UAAL)	\$ (167,121,220)	\$ (250,510,886)	\$ (417,632,106)
Unfunded Actuarial Accrued Liability, Prior Year	\$ (258,926,582)	\$ (308,844,739)	\$ (567,771,321)
Less: Amortization of Unfunded Actuarial Liability, Prior Year	(13,658,514)	(18,167,887)	(31,826,401)
Plus: Interest for Full Year at 7.25%	(17,781,935)	(21,074,072)	(38,856,007)
Plus: Increase (Decrease) Due to Change in Actuarial Assumptions	45,505,220	46,562,622	92,067,842
Equals: Expected Unfunded Actuarial Accrued Liability (UAAL)	\$ (217,544,783)	\$ (265,188,302)	\$ (482,733,085)
Experience (Gain)/Loss [Actual UAAL-Expected UAAL]	\$ 50,423,563	\$ 14,677,416	\$ 65,100,979

ACTUARIAL PRESENT VALUE OF ACCUMULATED PLAN BENEFITS  
FOR NON-RETIRED MEMBERS

	July 1, 2002		
	State	Political Subdivisions	Total
Vested Benefits			
- Active Members	\$ 943,561,099	\$ 1,166,288,531	\$ 2,109,849,630
- Terminated Members	<u>112,438,640</u>	<u>105,579,980</u>	<u>218,018,620</u>
Total	\$ 1,055,999,739	\$ 1,271,868,511	\$ 2,327,868,250
Nonvested Benefits	<u>126,925,147</u>	<u>192,076,845</u>	<u>319,001,992</u>
Total Non-Retired Actuarial Present Value of Accumulated Plan Benefits	\$ 1,182,924,886	\$ 1,463,945,356	\$ 2,646,870,242
Non-Retired Member Assets			
- Market Value	\$ 1,587,254,806	\$ 1,897,502,009	\$ 3,484,756,815
- Actuarial Value	2,061,789,940	2,464,790,490	4,526,580,430
Ratio of Assets to the Present Value of Vested Accumulated Plan Benefits			
- Market Value	1.503	1.492	1.497
- Actuarial Value	1.952	1.938	1.945
Ratio of Assets to the Present Value of Total Accumulated Plan Benefits			
- Market Value	1.342	1.296	1.317
- Actuarial Value	1.743	1.684	1.710

ACTUARIAL PRESENT VALUE OF ACCUMULATED PLAN BENEFITS  
FOR NON-RETIRED MEMBERS

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- Continued -

	July 1, 2001		
	State	Political Subdivisions	Total
Vested Benefits			
- Active Members	\$ 818,744,256	\$ 986,937,112	\$ 1,805,681,368
- Terminated Members	<u>94,857,110</u>	<u>49,886,261</u>	<u>144,743,371</u>
Total	\$ 913,601,366	\$ 1,036,823,373	\$ 1,950,424,739
Nonvested Benefits	<u>119,973,176</u>	<u>178,894,652</u>	<u>298,867,828</u>
Total Non-Retired Actuarial Present Value of Accumulated Plan Benefits	\$ 1,033,574,542	\$ 1,215,718,025	\$ 2,249,292,567
Non-Retired Member Assets			
- Market Value	\$ 1,897,501,223	\$ 2,303,014,844	\$ 4,200,516,067
- Actuarial Value	2,063,626,964	2,504,643,196	4,568,270,160
Ratio of Assets to the Present Value of Vested Accumulated Plan Benefits			
- Market Value	2.077	2.221	2.154
- Actuarial Value	2.259	2.416	2.342
Ratio of Assets to the Present Value of Total Accumulated Plan Benefits			
- Market Value	1.836	1.894	1.867
- Actuarial Value	1.997	2.060	2.031

STATEMENT OF CHANGES IN THE PRESENT VALUE OF ACCUMULATED PLAN BENEFITS  
FOR NON-RETIRED MEMBERS

Actuarial Present Value of Accumulated Plan Benefits, July 1, 2001	\$ 2,249,292,567
Plus: Increase Due to Additional Benefits Accumulated	218,006,448
Less: Transfers to Retired and Disabled Status	318,426,238
Plus: Increase Due to Decrease in the Discount Period (@7.25%)	178,879,179
Plus: Increase Due to Change in Plan Provisions	0
Plus: Increase (Decrease) Due to Change in Actuarial Assumptions	0
Plus: Actuarial Experience (Gain)/Loss and other Miscellaneous Items	<u>319,118,286</u>
Equals: Actuarial Present Value of Accumulated Plan Benefits, July 1, 2002	\$ 2,646,870,242

STATEMENT OF INCOME

July 1, 2001 - June 30, 2002

		<u>Market Value</u>
(1) Net Value of Assets Available for Benefits, July 1, 2001		\$ 8,355,440,079
(2) Receipts		
Employer Contributions:		
State	\$ 77,420,027	
Political Subdivisions	130,600,124	208,020,151
Employee Contributions:		
State	\$ 45,877,730	
Political Subdivisions	73,499,035	119,376,765
Investment Income and Dividends Net of Fees		(391,876,935)
Security Lending Income Net of Fees		2,590,333
Miscellaneous Income		<u>1,696,863</u>
Total Receipts		\$ (60,192,823)
(3) Disbursements		
Pension and Annuity Benefits		\$ 282,293,825
Disability Benefits		14,999,148
Refund of Contributions and Interest		29,103,761
Administrative Expenses		14,566,912
Miscellaneous Disbursements		<u>1,253,717</u>
Total Disbursements		\$ 342,217,363
(4) Net Value of Assets Available for Benefits, June 30, 2002 (1) + (2) - (3)		\$ 7,953,029,893

DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS

	<u>July 1, 2001</u>	<u>July 1, 2002</u>
Actuarial Value, Prior June 30	\$ 8,267,656,599	\$ 8,723,303,892
<u>Receipts</u>		
Employer Contributions Made During the Year	187,758,669	208,020,151
Employee Contributions Made During the Year	124,954,395	119,376,765
Expected Investment Income (@ 7.25%) - Beginning Value	599,405,103	632,439,532
Expected Investment Income (@ 7.25%) - Contributions	11,335,849	11,868,138
Miscellaneous Income	<u>4,771,013</u>	<u>1,696,863</u>
Total	\$ 928,225,029	\$ 973,401,449
<u>Disbursements</u>		
Benefits Paid During the Year	\$ 312,344,564	\$ 326,396,734
Net Operational Expenses	20,791,803	14,566,912
Expected Investment Expenses (@ 7.25%) - Disbursements	12,076,193	12,359,932
Miscellaneous Expenses	<u>4,780,478</u>	<u>1,253,717</u>
Total	\$ 349,993,038	\$ 354,577,295
Expected Actuarial Value, Current June 30	\$ 8,845,888,590	\$ 9,342,128,046
Actual Market Value, Current June 30	\$ 8,355,549,799	\$ 7,953,029,893
Actuarial Value, Current June 30 [75% of Expected Actuarial Value] + [25% of Actual Market Value]	\$ 8,723,303,892	\$ 8,994,853,508

ALLOCATION OF ASSETS

	<u>July 1, 2001</u>	<u>July 1, 2002</u>
Total Assets Available for Benefits		
- Market Value	\$ 8,355,549,799	7,953,029,893
- Actuarial Value	8,723,303,892	8,994,853,508
Less: Annuity Savings Account	1,728,971,769	1,886,124,000
Less: Retired and Disabled	2,426,061,963	2,582,149,078
Equals: Total Non-Retired Assets		
- Market Value	4,200,516,067	3,484,756,815
- Actuarial Value	4,568,270,160	4,526,580,430
Total Ledger Assets	5,217,458,565	5,323,362,832
- State Share of Total	2,356,885,151	2,424,712,461
- State Percent of Total	45.173050%	45.548510%
- Political Subdivisions Share of Total	2,860,573,414	2,898,650,371
- Political Subdivisions Percent of Total	54.826950%	54.451490%
State Portion (Based on Ledger Share)		
- Market Value	1,897,501,223	1,587,254,806
- Actuarial Value	2,063,626,964	2,061,789,940
Political Subdivisions Portion (Based on Ledger Share)		
- Market Value	2,303,014,844	1,897,502,009
- Actuarial Value	2,504,643,196	2,464,790,490

Each year the assets of the plan are allocated first to the Annuity Savings Account and second to retired and disabled lives. Residual assets are then allocated to non-retired members to determine necessary contribution levels for non-retired members.

REQUIRED PENSION DISCLOSURE UNDER GASB #25 AND #27  
(State Employees Only)

Schedule of Funding Progress

Actuarial Valuation Date July 1	(a) Non-Retired Actuarial Value of Assets	(b) Actuarial Accrued Liability (AAL)	(c) Unfunded AAL (UAAL) (b) - (a)	Funded Ratio (a)/(b)	(d) Annual Covered Payroll	UAAL (Excess Assets) as % of Payroll (c)/(d)
1993	\$ 1,042,043,673	\$ 1,080,918,227	\$ 38,874,554	96.4%	\$ 1,174,240,764	3.3%
1994	1,176,778,954	1,106,510,954	(70,268,000)	106.4%	1,176,139,559	(6.0%)
1995*	1,249,865,324	1,245,330,865	(4,534,459)	100.4%	1,205,288,325	(0.4%)
1996*	1,335,189,108	1,358,810,072	23,621,054	98.3%	1,235,465,458	1.9%
1997	1,447,332,235	1,465,185,818	17,853,583	98.8%	1,283,228,330	1.4%
1998	1,626,450,185	1,491,985,623	(134,464,562)	109.0%	1,229,903,410	(10.9%)
1999	1,828,584,443	1,583,485,563	(245,098,880)	115.5%	1,271,755,859	(19.3%)
2000	1,960,018,018	1,701,091,436	(258,926,582)	115.2%	1,371,496,425	(18.9%)
2001*	2,063,626,964	1,896,505,744	(167,121,220)	108.8%	1,429,768,169	(11.7%)
2002**	2,061,789,940	2,123,779,031	61,989,091	97.1%	1,501,201,217	4.1%

Schedule of Employer Contributions

Plan Year Ending June 30	Annual Required Contribution (ARC)	Actual Employer Contribution	% of ARC Contributed
1993	\$ 74,813,588	\$ 82,802,738	110.7%
1994	70,339,943	79,285,735	112.7%
1995	63,071,496	78,010,087	123.7%
1996	76,305,000	79,482,947	104.2%
1997	79,101,344	81,584,843	103.1%
1998	81,545,985	80,145,933	98.3%
1999	67,481,016	77,821,378	115.3%
2000	61,761,627	84,353,750	136.6%
2001	66,559,482	76,218,663	114.5%
2002	72,332,921	77,420,077	107.0%

\*Revised economic and/or noneconomic assumptions due to experience review.

\*\*New database system providing more up-to-date census data.

REQUIRED PENSION DISCLOSURE UNDER GASB #25 AND #27  
(State Employees Only)

Development of Net Pension Obligation (NPO)  
(Dollar Amounts in Thousands)

Year Beginning	(1) Annual Required Contrib	(2) Interest on NPO @ 7.25%	(3) ARC Adjust (8) / (4)	(4) Amort. Factor	(5) Net Pens Cost (1)+(2)-(3)	(6) Actual Employer Contrib	(7) Change in NPO (5) - (6)	(8) NPO @ BOY	(9) NPO @ EOY (7) + (8)
7/1/96	\$ 79,101	-	-	12.5944	\$ 79,101	\$ 81,585	\$ (2,484)	-	\$ (2,484)
7/1/97	81,546	\$ (180)	\$ (192)	12.9541	81,558	80,146	1,412	\$ (2,484)	(1,072)
7/1/98	67,481	(78)	(83)	12.8933	67,486	77,821	(10,335)	(1,072)	(11,407)
7/1/99	61,762	(827)	(889)	12.8280	61,824	84,354	(22,530)	(11,407)	(33,937)
7/1/00	66,559	(2,460)	(2,660)	12.7581	66,759	76,219	(9,460)	(33,937)	(43,397)
7/1/01	72,333	(3,146)	(3,422)	12.6830	72,609	76,304	(3,695)	(43,397)	(47,092)

SUMMARY OF EMPLOYEE DATA

	<u>July 1, 2001</u>	<u>July 1, 2002</u>
<b>Active Members</b>		
State	52,579	51,541
Political Subdivisions	<u>92,440</u>	<u>91,693</u>
Total	145,019	143,234
<b>Retired Members and Beneficiaries Receiving Benefits</b>		
Annual Benefits Payable from Trust	\$ 230,791,087	\$ 248,797,563
Average Annual Benefit	\$ 4,889	\$ 5,237
<b>Disabled Members Receiving Benefits</b>		
Annual Benefits Payable from Trust	\$ 13,529,137	\$ 14,212,424
Average Annual Benefit	\$ 3,794	\$ 3,964
<b>Terminated Members Entitled to Future Benefits</b>		
<u>STATE</u>	6,408	5,618
Deferred Annual Benefits*	\$ 26,565,153	\$ 30,291,386
Average Annual Benefits*	\$ 4,146	\$ 5,392
<u>POLITICAL SUBDIVISIONS</u>	3,915	5,954
Deferred Annual Benefits*	\$ 14,543,807	\$ 22,146,218
Average Annual Benefits*	\$ 3,715	\$ 3,720

\*Weighted with early retirement rates

SCHEDULED AMORTIZATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY

<u>Date Base Established</u>	<u>Reason</u>	<u>STATE PORTION</u>		
		<u>Years Remaining at 7-1-2002</u>	<u>Amortization Amount</u>	<u>Balance at 7/1/2002</u>
6/30/1975	Initial UAL	13	\$ 9,018,801	79,707,537
6/30/1976	Experience Loss	14	1,685,928	15,578,801
6/30/1977	Experience Loss	15	1,178,949	11,336,585
6/30/1978	Experience Loss	16	1,316,896	13,123,960
6/30/1979	Experience Loss	17	1,452,602	14,950,387
6/30/1980	Experience Loss	18	1,911,309	20,252,999
6/30/1981	Assump./Experience Gain	19	(1,581,922)	(17,211,472)
6/30/1982	Assumption Change	20	3,985,291	44,414,524
6/30/1982	Experience Loss	20	1,957,011	21,810,138
6/30/1983	Experience Gain	21	(698,574)	(7,957,621)
6/30/1984	Experience Loss	22	2,112,891	24,554,357
6/30/1985	Experience Gain	23	(994,812)	(11,774,217)
6/30/1986	Experience Gain	24	(2,439,258)	(29,357,802)
6/30/1987	Asset Method Change	25	2,438,462	29,802,774
6/30/1987	Assumption Change	25	3,116,220	38,086,308
6/30/1987	Experience Gain	25	(6,285,785)	(76,824,593)
6/30/1988	Assump./Experience Loss	26	1,059,632	13,134,951
6/30/1989	Experience Loss	27	3,335,525	41,886,926

Continued . . . .

SCHEDULED AMORTIZATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY

-Continued-

<u>Date Base Established</u>	<u>Reason</u>	<u>STATE PORTION, Continued</u>		
		<u>Years Remaining at 7-1-2002</u>	<u>Amortization Amount</u>	<u>Balance at 7/1/2002</u>
6/30/1990	Experience Gain	28	\$ (2,734,888)	\$ (34,757,496)
6/30/1991	Experience Gain	29	(6,507,574)	(83,621,104)
6/30/1992	Experience Gain	30	(3,390,981)	(44,018,924)
7/1/1993	Experience Gain	31	(5,680,630)	(74,437,051)
7/1/1994	Experience Gain	32	(7,526,461)	(99,483,767)
7/1/1995	Experience Gain	33	(5,441,381)	(72,502,882)
7/1/1995	Subsidized Early Ret.	33	2,450,554	32,652,038
7/1/1995	Assumption Change	33	8,041,218	107,144,015
7/1/1996	Experience Gain	34	(2,721,579)	(36,533,490)
7/1/1996	Assumption Change	35	5,124,290	68,786,605
7/1/1997	Experience Gain	35	(5,687)	(76,866)
7/1/1998	Experience Gain	35	(10,574,011)	(142,920,582)
7/1/1999	Experience Gain	35	(7,660,765)	(103,544,521)
7/1/2000	Experience Gain	35	(665,781)	(8,998,836)
7/1/2001	Experience Loss	35	3,706,926	50,103,593
7/1/2001	Assumption Change	35	3,345,350	45,216,416
7/1/2002	Experience Loss	35	<u>17,273,134</u>	<u>233,467,356</u>
Total			\$ 9,600,900	\$ 61,989,091

SCHEDULED AMORTIZATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY

-Continued-

<u>Date Base Established</u>	<u>Reason</u>	<u>POLITICAL SUBDIVISION PORTION</u>		
		<u>Years Remaining at 7-1-2002</u>	<u>Amortization Amount</u>	<u>Balance at 7/1/2002</u>
6/30/1981	Initial UAL-Combined	14	\$ 13,222,723	\$ 122,184,504
6/30/1982	Assumption Change	20	2,808,877	31,303,853
6/30/1982	Experience Loss	20	1,248,079	12,909,353
6/30/1983	Experience Gain	21	(195,876)	(2,231,276)
6/30/1984	Experience Loss	22	395,006	4,590,451
6/30/1985	Experience Gain	23	(3,038,665)	(35,964,504)
6/30/1986	Experience Gain	24	(4,196,179)	(50,503,327)
6/30/1987	Asset Method Change	25	2,941,853	35,955,200
6/30/1987	Assumption Change	25	3,921,520	47,928,650
6/30/1987	Experience Gain	25	(1,999,627)	(24,439,348)
6/30/1988	Assump./Experience Gain	26	(1,795,917)	(22,261,772)
6/30/1989	Experience Loss	27	4,547,601	57,107,958

Continued . . . .

SCHEDULED AMORTIZATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY

-Continued-

<u>Date Base Established</u>	<u>Reason</u>	<u>POLITICAL SUBDIVISION PORTION, Continued</u>		
		<u>Years Remaining at 7-1-2002</u>	<u>Amortization Amount</u>	<u>Balance at 7/1/2002</u>
6/30/1990	Experience Gain	28	\$ (1,402,505)	\$ (17,824,337)
6/30/1991	Experience Gain	29	(5,988,013)	(76,944,857)
6/30/1992	Experience Gain	30	(2,618,090)	(33,985,895)
7/1/1993	Experience Gain	31	(5,630,704)	(73,782,840)
7/1/1994	Experience Gain	32	(4,860,205)	(64,241,550)
7/1/1995	Experience Gain	33	(8,587,968)	(114,429,118)
7/1/1995	Subsidized Early Ret.	33	2,101,061	27,995,277
7/1/1995	Assumption Change	33	9,657,141	128,675,135
7/1/1996	Experience Gain	34	(3,437,988)	(46,150,299)
7/1/1996	Assumption Change	34	6,108,712	82,001,143
7/1/1997	Experience Gain	35	(3,790,418)	(51,232,093)
7/1/1998	Experience Gain	35	(7,688,907)	(103,924,901)
7/1/1999	Experience Gain	35	(8,682,630)	(117,356,274)
7/1/2000	Experience Gain	35	(2,259,871)	(30,544,895)
7/1/2001	Experience Loss	35	1,079,021	14,584,279
7/1/2001	Assumption Change	35	3,423,086	46,267,152
7/1/2002	Experience Loss	35	<u>34,107,566</u>	<u>461,005,115</u>
Total			\$ 19,388,683	\$ 207,690,784

TEN YEAR HISTORY OF CONTRIBUTION RATES

<u>Valuation Date</u>	<u>State</u>	<u>Political Subdivisions</u>	<u>Total</u>
July 1, 1993	6.2%	6.0%	6.1%
July 1, 1994	5.6%	5.7%	5.6%
July 1, 1995*	6.3%	6.0%	6.1%
July 1, 1996*	6.6%	6.2%	6.4%
July 1, 1997	6.6%	5.9%	6.2%
July 1, 1998	5.7%	5.5%	5.6%
July 1, 1999	5.0%	5.1%	5.1%
July 1, 2000	5.0%	5.0%	5.0%
July 1, 2001*	5.2%	5.0%	5.1%
July 1, 2002	5.6%	6.2%	5.9%

\* Plan changes and/or changes in actuarial assumptions

TEN YEAR HISTORICAL INVESTMENT EXPERIENCE

<u>Year Ending June 30</u>	<u>Estimated Annual Rate of Investment Return</u>		
	<u>Actuarial Basis</u>	<u>Market Basis</u>	<u>Actuarial Assumed Interest Rate</u>
1993	9.69%	1.27%	7.50%
1994	9.32%	0.91%	7.50%
1995	8.61%	10.52%	7.00%
1996	7.96%	5.04%	7.25%
1997	8.57%	8.25%	7.25%
1998	9.34%	13.27%	7.25%
1999	9.52%	10.04%	7.25%
2000	8.53%	5.80%	7.25%
2001	5.77%	(2.14%)	7.25%
2002	3.08%	(4.85%)	7.25%

TEN YEAR HISTORICAL MEMBER INFORMATION

Active Member Statistics

<u>Year Ending June 30</u>	<u>Number</u>	<u>Total Anticipated Annual Payroll</u>	<u>Average Annual Pay</u>	<u>Percentage Increase In Average Pay</u>
1993	138,056	\$2,664,942,832	\$19,303	1.70%
1994	138,788	2,736,533,511	19,717	2.14%
1995	139,931	2,833,328,063	20,248	2.69%
1996	142,336	2,921,540,553	20,526	1.37%
1997	142,011	3,056,390,214	21,522	4.86%
1998	141,383	3,110,162,069	21,998	2.21%
1999	141,441	3,250,197,264	22,979	4.46%
2000	146,613	3,482,453,418	23,753	3.37%
2001	145,019	3,587,079,638	24,735	4.14%
2002	143,234	3,851,760,958	26,891	8.72%

Non-Retired Inactive Vested Member Statistics

<u>Year Ending June 30</u>	<u>Number</u>	<u>Average Annual Benefit*</u>
1993	5,014	\$2,893
1994	5,300	3,056
1995	5,871	3,011
1996	6,083	3,113
1997	5,741	3,349
1998	6,862	3,661
1999	7,979	3,611
2000	8,368	3,788
2001	10,323	3,982
2002	11,572	4,531

\*Weighted with early retirement rates

TEN YEAR HISTORICAL MEMBER INFORMATION

-Continued-

Retired Member and Beneficiary Statistics

<u>Year Ending June 30</u>	<u>Number</u>	<u>Annual Benefit*</u>	<u>Average Annual Benefit*</u>
1993	36,818	\$130,180,230	\$3,536
1994	38,024	140,249,468	3,688
1995	39,610	152,231,035	3,843
1996	40,819	163,455,987	4,004
1997	42,050	176,509,450	4,198
1998	43,517	193,350,012	4,443
1999	44,594	203,097,160	4,554
2000	45,768	216,615,494	4,733
2001	47,203	230,791,087	4,889
2002	47,507	248,797,563	5,237

Disabled Member Statistics

1993	2,518	\$ 7,189,100	\$ 2,855
1994	2,666	7,843,643	2,942
1995	2,803	8,666,154	3,092
1996	2,966	9,516,383	3,208
1997	3,101	10,363,939	3,342
1998	3,257	11,433,222	3,510
1999	3,360	11,986,411	3,567
2000	3,537	13,230,143	3,740
2001	3,566	13,529,137	3,794
2002	3,585	14,212,424	3,964

\*Includes employee annuities

TEN YEAR HISTORICAL FUNDING INFORMATION

Portion Of Actuarial Liability Provided for by Assets

(In Thousands of Dollars)

<u>Year Ending June 30</u>	<u>Accumulated Employee Contributions</u>	<u>Retired and Disabled</u>	<u>Non-Retired Member Actuarial Liability</u>	<u>Net Assets Available for Benefits, Actuarial Value</u>
1993	\$ 878,179 100%	\$ 1,249,912 100%	\$ 2,280,584 97.5%	\$ 4,352,349
1994	966,872 100%	1,342,286 100%	2,402,380 100%	4,835,817
1995	1,046,516 100%	1,561,103 100%	2,685,974 100%	5,312,016
1996	1,140,426 100%	1,751,629 100%	2,926,879 98.6%	5,776,621
1997	1,264,456 100%	1,893,179 100%	3,126,230 100%	6,304,948
1998	1,288,353 100%	2,074,561 100%	3,267,237 100%	6,914,957
1999	1,428,913 100%	2,158,640 100%	3,488,428 100%	7,595,266
2000	1,647,902 100%	2,303,679 100%	3,748,305 100%	8,267,657
2001	1,728,972 100%	2,426,062 100%	4,150,638 100%	8,723,304
2002	1,886,124 100%	2,582,149 100%	4,597,859 98.4%	8,994,854

TEN YEAR HISTORICAL FUNDING INFORMATION

-Continued-

Portion of Present Value of Accumulated Vested and Total Accumulated Benefits Provided for by Assets

(In Thousands of Dollars)

<u>Year Ending June 30</u>	<u>Accumulated Employee Contributions</u>	<u>Retired and Disabled</u>	<u>Non-Retired Accumulated Vested Benefits</u>	<u>Non-Retired Total Accumulated Benefits</u>	<u>Net Assets Available for Benefits, Actuarial Value</u>
1993	\$ 878,179 100%	\$ 1,249,912 100%	\$ 782,738 100%	\$1,018,084 100%	\$4,352,349
1994	966,872 100%	1,342,286 100%	841,089 100%	1,094,104 100%	4,835,817
1995	1,046,516 100%	1,658,027 100%	1,289,703 100%	1,604,165 100%	5,312,016
1996	1,140,426 100%	1,751,629 100%	1,307,888 100%	1,639,205 100%	5,776,621
1997	1,264,456 100%	1,893,179 100%	1,405,101 100%	1,747,693 100%	6,304,948
1998	1,288,353 100%	2,074,561 100%	1,511,289 100%	1,859,857 100%	6,914,957
1999	1,428,913 100%	2,158,640 100%	1,639,166 100%	2,005,646 100%	7,595,266
2000	1,647,901 100%	2,303,679 100%	1,785,795 100%	2,168,889 100%	8,267,657
2001	1,728,972 100%	2,426,062 100%	1,950,425 100%	2,249,293 100%	8,723,304
2002	1,886,124 100%	2,582,149 100%	2,327,868 100%	2,646,870 100%	8,994,854

## ACTUARIAL METHODS

ACTUARIAL COST METHOD

Entry Age Normal Cost

ASSET VALUATION METHOD

75% of Expected  
Actuarial Value Plus  
25% of Market Value

### Entry Age Normal Cost

The normal cost is calculated separately for each active member and is equal to the level percentage of payroll needed as an annual contribution from entry age to retirement age to fund projected benefits. The unfunded actuarial accrued liability on any valuation date is the accumulated value of such normal costs from entry age to the valuation date less the actuarial value of assets.

The effect of this valuation method is to amortize all actuarial gains and losses, resulting from experience different from that anticipated in our assumptions, over a 40-year period (30-year period is being phased in commencing July 1, 1998). The purpose of the method is to give a smooth progression of the costs from year to year and, at the same time, provide for an orderly funding of the unfunded liabilities.

## ACTUARIAL ASSUMPTIONS

Interest	7.25% net of administrative expenses
Future Salary Increases	Based on PERF experience 1995-2000.
Cost of Living Increases	An increase of 2.0% (compounded) is assumed to be applied to the pension benefit each year following retirement. No increase is assumed to be applied to the PERF annuity benefit.
Mortality	UP-1994. Pre-retirement mortality based on PERF experience 1995-2000.
Disability	Based on PERF experience 1995-2000.
Termination	Select and ultimate tables based on PERF experience 1995-2000. Separate tables are used for state employees and political subdivision employees.
Retirement	Based on PERF experience 1995-2000.
Spouse's Benefit	90% of members are assumed either to be married or to have a dependent beneficiary. Males are assumed to be 3 years older than their spouses.
Administrative Expense	Netted against investment earnings

## SUMMARY OF MAJOR PLAN PROVISIONS

### PARTICIPATION

All full time employees of the State of Indiana and all full time employees of political subdivisions which have adopted the plan must become members of PERF upon date of hire.

### ELIGIBILITY FOR ANNUITY BENEFITS:

#### Normal Retirement

Earliest of:

- (1) Age 65 with 10 years of creditable service;
- (2) Age 60 with 15 years of creditable service;
- (3) Sum of age and creditable service equal to 85 (but not earlier than age 55).

#### Early Retirement

Age 50 with 15 years of creditable service

#### Late Retirement

Subject to continued employment after normal retirement

#### Disability Retirement

5 years of creditable service and qualified for Social Security disability benefits or federal Civil Service disability benefits.

#### Termination

10 years of creditable service and election not to take lump sum payment of employee account balance with interest.

#### Pre-Retirement Death

If death occurs in service, 15 years of creditable service. If death occurs after separating from service, age 50 with 15 years of creditable service.

SUMMARY OF MAJOR PLAN PROVISIONS, Continued

AMOUNT OF BENEFITS:

Normal Retirement	The normal retirement benefit is an annuity payable for life with 60 months guaranteed and is equal to 1.1% of average monthly earnings* times years and months of creditable service earned.
Early Retirement	The early retirement benefit is the accrued retirement benefit determined as of the early retirement date and payable commencing at the normal retirement date. A member may elect to have the benefit commence prior to normal retirement provided the benefit is reduced by 1/10% for each of the first 60 months and by 5/12% for each of the next 120 months that the benefit commencement date precedes the normal retirement date.
Late Retirement	The late retirement benefit is calculated in the same manner as the normal retirement benefit. Creditable service and earnings earned after normal retirement is included in the computation.
Disability Retirement	The disability retirement benefit is the accrued retirement benefit determined as of the disability date and payable commencing the month following disability date without reduction for early commencement.
Termination	The termination benefit is the accrued retirement benefit determined as of the termination date and payable commencing at 65. If the member has 15 or more years of creditable service, then the member may elect to receive a reduced early retirement benefit.

\*Average monthly earnings is the monthly average of earnings during the 20 quarters (in groups of 4 consecutive quarters) preceding retirement that produce the highest such average. Earnings include basic salary, the member's 3% mandatory contribution paid by the employer, the member's salary reduction agreement under Section 125, 403(b) or 457 of the Internal Revenue Code, and up to \$2,000 of additional compensation received from the employer in anticipation of the member's termination or retirement.

SUMMARY OF MAJOR PLAN PROVISIONS, Continued

AMOUNT OF BENEFITS:

Pre-Retirement Death

The spouse or dependent beneficiary is entitled to receive the monthly life annuity under the assumption that the member retired on the later of age 50 or the day before the date of death and elected the joint and full survivor option.

Employee Contributions

Each member is required to contribute to an employee annuity at the rate of 3% of pay (unless the employer has opted to make all or a portion of the contribution for the employee). These contributions are kept on deposit and credited with interest until such time as they are refunded or used to provide the annuity benefit at retirement.

The benefits provided by employee contributions are in addition to the benefits provided by employer contributions. The monthly annuity provided at a normal retirement age of 65 is equal to \$1.00 for each \$108.79 of accumulated employee contributions plus interest.