

## **Indiana State Teachers' Retirement Fund**

Annual Actuarial Valuation

as of June 30, 2010

### **Nyhart**

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January 7, 2011

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***The Board of Trustees  
Indiana State Teachers' Retirement Fund  
Indianapolis, IN***

***Dear Board Members:***

An actuarial valuation is prepared annually for the Indiana State Teachers' Retirement Fund. Submitted in this report are the results of the June 30, 2010 actuarial valuation.

**Census Data and Asset Information**

The member census data and the asset information for this valuation were furnished by the Chief Financial Officer 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 thoroughly for reasonableness and compared it with the prior year's submission for consistency.

**Assumptions and Methods**

The actuarial assumptions used in the June 30, 2010 valuation were adopted by the Board pursuant to the Experience Study of August, 2008, which reflects the experience period from July 1, 2002 to June 30, 2007. The June 30, 2010 valuation incorporates the changes in the interest rate, assumed COLA, and amortization method that were approved by the Board on September 16, 2010. Assumptions are summarized in the Assumptions and Methods section of this report. These assumptions and methods have been used to develop the Annual Required Contribution and are consistent with the accounting requirements detailed in GASB Statements No. 25, No. 27, and No. 50.

**Funding Objective**

The Indiana State Teachers' Retirement Fund Pre-1996 Account is funded on a pay-as-you-go basis from the State of Indiana.

The funding objective of the Indiana State Teachers' Retirement Fund 1996 Account is to establish and receive contributions that, 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. As such, an employer contribution rate is calculated each year. That rate is then considered in conjunction with the goal of maintaining a relatively stable contribution over time.

**Certification**

We have included several schedules and exhibits in this report, including the following:

Summary of Actuarial Assumptions and Methods

Analysis of Financial Experience

Solvency Test

Schedule of Active Members' Valuation Data

Schedule of Retirants and Beneficiaries

Schedule of Funding Progress

Schedule of Employer Contributions

The valuation was completed under the supervision of a Member of the American Academy of Actuaries with significant experience in valuing 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 that are reasonable.

Respectfully submitted,



John L. Dowell, FSA, EA, MAAA



Michael Zurek, EA, MAAA

JD/lmw

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## ***Comments***

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### **Contribution Rates**

The Calculated Contribution Rate section shows the calculated rate for the 1996 Account. That rate is determined as if the 1996 Account were a stand-alone plan.

Since the Pre-1996 Account is funded on a pay-as-you-go basis, only the expected benefit payments are shown in the Calculated Contribution Rate section. A similar normal cost plus UAL amortization contribution rate was calculated for the Pre-1996 Account and the two rates have been combined to determine the Annual Required Contribution shown in the GASB Disclosures section.

### **Plan Provisions**

There is no ad-hoc COLA on January 1, 2011. Instead, retirees were paid a service-related lump sum in September 2010. These changes are reflected in the June 30, 2010 valuation. Any future COLA is estimated by an ongoing assumption of 1.0% annual increases in all pension payments beginning January 1, 2012. We are not aware of any other material changes in the plan provisions since the June 30, 2009 actuarial valuation.

### **Census Data**

Census data for the valuation was provided by ISTRF. We have thoroughly examined the data for reasonableness and consistency with prior years, but we did not otherwise audit it.

### **Assumptions and Methods**

The actuarial assumptions used in the June 30, 2010 valuation are based on plan experience from July 1, 2002 to June 30, 2007. There were three assumption and method changes effective in the June 30, 2010 actuarial valuation:

- The interest rate assumption has been reduced from 7.50% to 7.00%.
- The annual assumed COLA has been reduced from 1.50% to 1.00%.
- The amortization method has been changed from 30-year open amortization to 30-year closed amortization.

These changes were approved by the TRF Board on September 16, 2010.

### **Investment Experience**

The investment return for the year ended June 30, 2010 was higher than the assumed 7.5% return. The market value rate of return was 13.3%. Under the asset valuation method, market gains and losses are spread over a four-year period. The Market Value of Assets is currently \$664 million lower than the Actuarial Value of Assets, meaning a portion of the recent losses have not yet been recognized, but will be in the upcoming years.

### **Challenges**

The 1996 Account has been steadily funded since its inception. As membership in that portion of the plan increases, the amount of required contributions will increase as a dollar amount, but should remain relatively stable as a percentage of covered payroll with plan experience causing gradual changes. The primary funding challenge will be for the State to meet the projected pay-as-you-go obligations as shown in the Payout Projections section for the Pre-1996 Account.

## Summary of Key Valuation Results

	6/30/2010			6/30/2009
	Pre-1996 Account	1996 Account	Total	
<b>Member Information</b>				
Number				
Active Members	26,439	46,433	72,872	74,343
Vested Inactive Members	5,209	2,461	7,670	6,858
Nonvested Inactive Members	8,149	27,698	35,847	38,897
Retired Members and Beneficiaries	43,478	2,181	45,659	44,492
Total	83,275	78,773	162,048	164,590
Active Payroll	\$ 1,865,101,649	\$ 2,447,509,055	\$ 4,312,610,704	\$ 4,339,032,221
Annual Benefit Payments				
Annuity	\$ 94,571,772	\$ 4,086,636	\$ 98,658,408	\$ 94,048,596
Pension	696,201,000	36,614,460	732,815,460	704,330,394
Total	\$ 790,772,772	\$ 40,701,096	\$ 831,473,868	\$ 798,378,990
<b>Assets and Liabilities</b>				
Accrued Liability				
ASA Account Balance	\$ 2,337,249,389	\$ 750,917,605	\$ 3,088,166,994	\$ 3,043,055,876
ASA Annuities	879,653,112	44,230,482	923,883,594	858,430,601
Pension	13,065,163,458	2,819,411,019	15,884,574,477	15,261,139,083
Total	\$ 16,282,065,959	\$ 3,614,559,106	\$ 19,896,625,065	\$ 19,162,625,560
Market Value of Assets				
ASA Account Balance	\$ 2,353,715,450	\$ 750,574,483	\$ 3,104,289,933	\$ 3,045,728,658
ASA Annuities	695,419,209	53,532,532	748,951,741	647,508,254
Pension	1,980,396,837	2,307,129,990	4,287,526,827	3,505,901,940
Total	\$ 5,029,531,496	\$ 3,111,237,005	\$ 8,140,768,501	\$ 7,199,138,852
Actuarial Value of Assets				
ASA Account Balance	\$ 2,353,715,450	\$ 750,574,483	\$ 3,104,289,933	\$ 3,045,728,658
ASA Annuities	787,128,930	60,592,236	847,721,166	777,009,905
Pension	2,241,565,409	2,611,387,114	4,852,952,523	4,207,082,328
Total	\$ 5,382,409,789	\$ 3,422,553,833	\$ 8,804,963,622	\$ 8,029,820,891
Unfunded Accrued Liability				
ASA Account Balance	\$ (16,466,061)	\$ 343,122	\$ (16,122,939)	\$ (2,672,782)
ASA Annuities	92,524,182	(16,361,754)	76,162,428	81,420,696
Pension	10,823,598,049	208,023,905	11,031,621,954	11,054,056,755
Total	\$ 10,899,656,170	\$ 192,005,273	\$ 11,091,661,443	\$ 11,132,804,669
Funded Percentage				
ASA Account Balance	100.7%	100.0%	100.5%	100.1%
ASA Annuities	89.5%	137.0%	91.8%	90.5%
Pension	17.2%	92.6%	30.6%	27.6%
Total	33.1%	94.7%	44.3%	41.9%
<b>Annual Costs</b>				
Pension Normal Cost	\$ 99,080,574	\$ 143,267,466	\$ 242,348,040	\$ 221,992,372
Calculated Employer Contribution Rate - 1996 Account Only				
		<b>Fiscal 2012</b>		<b>Fiscal 2011</b>
Normal Cost		5.85%		5.36%
Amortization of Unfunded Liability		0.60%		0.71%
Total		6.45%		6.07%
Actual Employer Contribution Rate - 1996 Account Only				
		7.50%		7.50%
Pre-1996 Account Only				
	<b>Fiscal 2012</b>			<b>Fiscal 2011</b>
Pension Benefit Payments	813,300,000			780,400,000
Pension Contributions*	755,400,000			734,300,000

\*Fiscal 2011 budgeted contribution provided by TRF. Fiscal 2012 contribution assumes a 3% increase from Fiscal 2011.

## ***Unfunded Accrued Liability***

### **Pre-1996 Account**

\$Millions

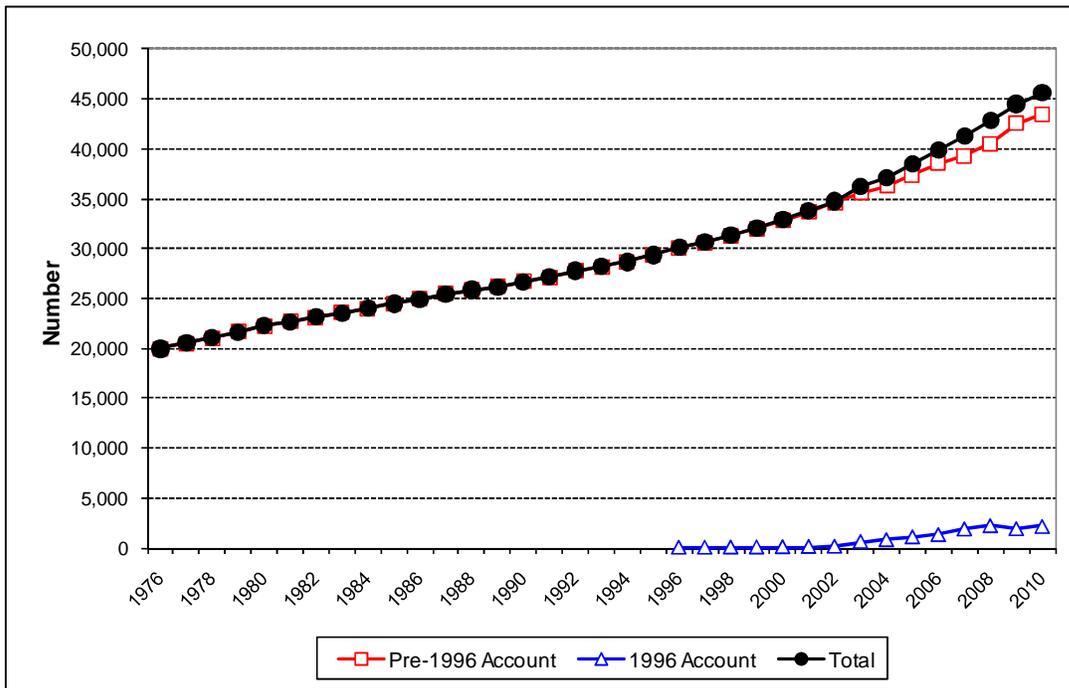
<b>June 30</b>	<b>Accrued Liability</b>	<b>Actuarial Value of Assets</b>	<b>Unfunded Accrued Liability</b>	<b>Funded Percentage</b>
1975	\$ 1,570	\$ 312	\$ 1,258	19.9%
1980	2,843	539	2,304	19.0%
1985	4,023	1,073	2,950	26.7%
1991	7,182	2,161	5,021	30.1%
1992	7,949	2,376	5,573	29.9%
1993	8,508	2,592	5,916	30.5%
1994	9,087	2,809	6,278	30.9%
1995	9,675	2,984	6,691	30.8%
1996	10,283	3,242	7,041	31.5%
1997	10,868	3,678	7,190	33.8%
1998	11,481	4,130	7,351	36.0%
1999	12,173	4,731	7,442	38.9%
2000	12,409	5,210	7,199	42.0%
2001	12,696	5,363	7,333	42.2%
2002	13,498	5,555	7,943	41.2%
2003	13,355	5,728	7,627	42.9%
2004	13,549	5,765	7,784	42.5%
2005	14,254	5,797	8,457	40.7%
2006	15,003	5,478	9,525	36.5%
2007	15,988	5,764	10,224	36.1%
2008	15,792	5,954	9,838	37.7%
2009	16,027	5,109	10,918	31.9%
2010	16,282	5,382	10,900	33.1%

### **1996 Account**

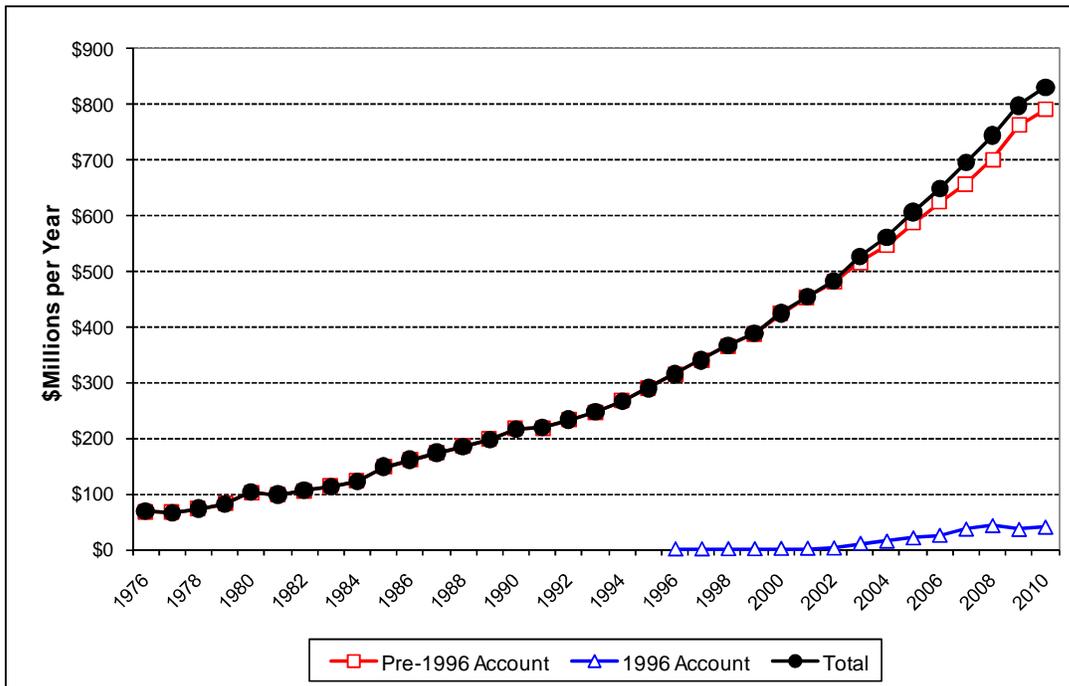
\$Millions

<b>June 30</b>	<b>Accrued Liability</b>	<b>Actuarial Value of Assets</b>	<b>Unfunded Accrued Liability</b>	<b>Funded Percentage</b>
1996	\$ 48	\$ 21	\$ 27	43.8%
1997	176	72	104	40.9%
1998	298	136	162	45.6%
1999	498	240	258	48.2%
2000	706	368	338	52.1%
2001	828	447	381	54.0%
2002	1,167	621	546	53.2%
2003	1,392	826	566	59.3%
2004	1,649	1,039	610	63.0%
2005	2,011	1,268	743	63.1%
2006	2,363	2,209	154	93.5%
2007	2,828	2,713	115	95.9%
2008	2,958	3,080	(122)	104.1%
2009	3,136	2,921	215	93.1%
2010	3,615	3,423	192	94.7%

### Retired Members and Beneficiaries Receiving Benefits



### Total Retirement Allowances Being Paid



## Active Member Data

### Pre-1996 Account

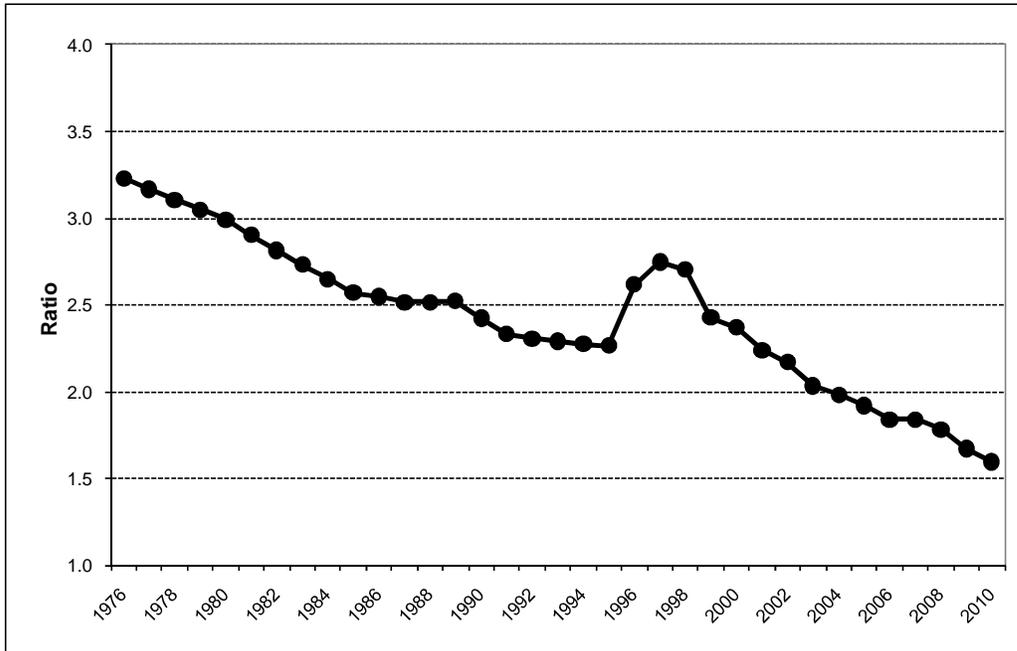
June 30	Number	Valuation Payroll (\$000s)	Average			
			Age	Service	Pay	Pay Increase %
1975	63,932	\$ 749,200	38.7	10.9	\$ 11,719	
1980	66,575	1,107,699	39.7	11.9	16,638	
1985	62,932	1,519,887	41.5	14.2	24,151	
1987	64,157	1,751,709	42.0	14.5	27,303	
1989	65,986	2,044,797	42.6	14.9	30,988	
1991	63,373	2,278,715	43.0	15.4	35,957	
1992	63,980	2,416,263	43.8	16.0	37,766	5.0%
1993	64,594	2,536,165	44.0	16.1	39,263	4.0
1994	65,209	2,614,915	44.1	16.2	40,101	2.1
1995	66,542	2,728,811	44.2	16.2	41,009	2.3
1996	70,183	2,805,823	44.2	15.7	39,979	(2.5)
1997	63,520	2,739,436	45.4	16.9	43,127	7.9
1998	59,030	2,699,183	46.4	18.0	45,726	6.0
1999	56,560	2,755,489	47.4	19.3	48,718	6.5
2000	52,920	2,561,533	48.2	20.1	48,404	(0.6)
2001	50,802	2,564,451	48.7	20.7	50,479	4.3
2002	47,510	2,604,956	49.4	21.5	54,830	8.6
2003	43,705	2,448,271	49.6	21.7	56,018	2.2
2004	41,510	2,384,480	50.1	22.2	57,444	2.5
2005	39,097	2,305,726	50.6	22.7	58,974	2.7
2006	36,994	2,237,380	51.1	23.2	60,480	2.6
2007	36,526	2,376,390	52.1	23.8	65,060	7.6
2008	34,628	2,295,816	52.5	24.6	66,299	1.9
2009	29,297	2,030,484	53.7	26.0	69,307	4.5
2010	26,439	1,865,102	53.9	26.3	70,544	1.8

### 1996 Account

June 30	Number	Valuation Payroll (\$000s)	Average			
			Age	Service	Pay	Pay Increase %
1996	8,683	\$ 72,506	32.2	1.3	\$ 8,350	
1997	20,686	245,168	33.0	1.8	11,852	41.9%
1998	25,634	395,758	33.6	2.2	15,439	30.3
1999	21,185	538,837	35.3	4.0	25,435	64.7
2000	24,950	631,072	36.4	4.7	25,293	(0.6)
2001	24,846	754,426	36.3	5.5	30,364	20.0
2002	27,873	1,004,515	36.7	6.1	36,039	18.7
2003	29,936	1,136,864	37.0	6.5	37,976	5.4
2004	32,000	1,267,173	37.3	6.9	39,599	4.3
2005	34,826	1,428,604	37.5	7.2	41,021	3.6
2006	36,356	1,565,341	37.7	7.5	43,056	5.0
2007	39,307	1,891,605	38.2	7.8	48,124	11.8
2008	41,628	2,052,719	38.1	8.2	49,311	2.5
2009	45,046	2,308,548	38.3	8.4	51,249	3.9
2010	46,433	2,447,509	38.6	8.8	52,711	2.9

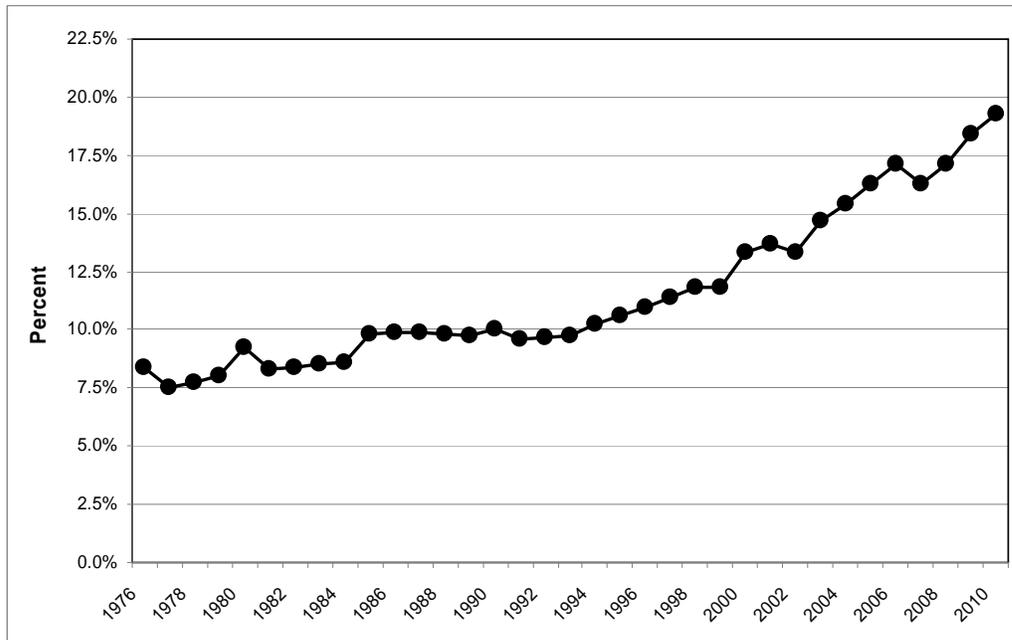
### ***Active Members per Retired Life***

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### ***Total Retirement Allowances as a Percent of Valuation Payroll***

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**Reconciliation of Market Value of Assets**

	<u>6/30/2009 thru 6/30/2010</u>	<u>6/30/2008 thru 6/30/2009</u>
Market Value, beginning of year	\$ 7,199,138,852	\$ 8,563,959,336
Member Contributions	130,517,358	126,346,525
Employer Contributions	881,013,054	850,156,195
Benefit Payments	(1,027,551,290)	(944,286,356)
Net Transfers	<u>3,170,775</u>	<u>2,987,913</u>
Non-Investment Net Cash Flow	\$ (12,850,103)	\$ 35,204,277
Plan Expenses	\$ (53,967,988)	\$ (45,209,703)
Investment Return	<u>1,008,447,740</u>	<u>(1,354,815,058)</u>
Net Investment Return	\$ 954,479,752	\$ (1,400,024,761)
Market Value, end of year	\$ 8,140,768,501	\$ 7,199,138,852
Market Value Net Rate of Return	13.3%	(16.3%)

**Development of the Actuarial Value of Assets\***

	<u>6/30/2009 thru 6/30/2010</u>
1. Actuarial Value, beginning of year	\$ 4,984,092,233
2. Market Value, beginning of year	4,153,410,194
3. Market Value, end of year	5,036,478,568
4. Non-Investment Net Cash Flow	103,148,796
5. Net Investment Return	
a. Expected $[(.075 \times ((2)+0.5*(4))]$	315,373,844
b. Actual $[(3) - (2) - (4)]$	<u>779,919,578</u>
6. Current Year Market Value Gain/(Loss) $[(5b) - (5a)]$	\$ 464,545,734
7. Deferred Recognition of Investment Gain/(Loss)	
a. Fiscal 2010 (75% of (6))	\$ 348,409,301
b. Fiscal 2009 (50%)	(824,751,904)
c. Fiscal 2008 (25%)	<u>(187,852,518)</u>
d. Total $[(a) + (b) + (c)]$	\$ (664,195,121)
8. Preliminary Actuarial Value, end of year $[(3) - (7d)]$	5,700,673,689
a. 80% of Market Value, end of year $[80\% \text{ of } (3)]$	4,029,182,854
b. 120% of Market Value, end of year $[120\% \text{ of } (3)]$	6,043,774,282
9. Actuarial Value, end of year $[(8), \text{ but not Greater than } (8b), \text{ nor Less than } (8a)]$	\$ 5,700,673,689
10. Actuarial Value as a % of Market Value $[(9) / (3)]$	113.18769%
11. Net Investment Return on Actuarial Value $[(9) - (1) - (4)]$	\$ 613,432,660
12. Actuarial Value Net Rate of Return $[(11) / ((1) + 0.5*(4))]$	12.2%

\* The Actuarial Value of Assets developed here is net of ASA account balances. For ASA account balances, the Actuarial Value of Assets is set equal to the Market Value of Assets.

## **Asset and Liability Allocation**

### **Market Value of Assets Allocation**

	<b>Pre-1996 Account</b>	<b>1996 Account</b>	<b>Total</b>
<b>Member</b>			
Active and Inactive	\$ 2,353,715,450	\$ 750,574,483	\$ 3,104,289,933
Retired	<u>695,419,209</u>	<u>53,532,532</u>	<u>748,951,741</u>
Total Member	\$ 3,049,134,659	\$ 804,107,015	\$ 3,853,241,674
<b>Employer</b>			
Active and Inactive	\$ 0	\$ 1,969,337,000	\$ 1,969,337,000
Retired			
Pension Stabilization Fund	\$ 1,932,815,000	\$ 0	\$ 1,932,815,000
Other	<u>47,581,837</u>	<u>337,792,990</u>	<u>385,374,827</u>
Total	\$ 1,980,396,837	\$ 337,792,990	\$ 2,318,189,827
Total Employer	\$ 1,980,396,837	\$ 2,307,129,990	\$ 4,287,526,827
Total	\$ 5,029,531,496	\$ 3,111,237,005	\$ 8,140,768,501

### **Unfunded Accrued Liability Allocation**

	<b>Pre-1996 Account</b>	<b>1996 Account</b>	<b>Total</b>
<b>Retired Members and Beneficiaries</b>			
ASA Balances and Annuities	\$ 1,104,516,047	\$ 62,161,068	\$ 1,166,677,115
Pension Accrued Liability	7,048,724,134	420,955,616	7,469,679,750
Actuarial Value of Assets*	<u>3,028,694,339</u>	<u>442,932,315</u>	<u>3,471,626,654</u>
Unfunded Accrued Liability	\$ 5,124,545,842	\$ 40,184,369	\$ 5,164,730,211
<b>Active and Inactive Members</b>			
ASA Balances	\$ 2,112,386,454	\$ 732,987,019	\$ 2,845,373,473
Pension Accrued Liability	6,016,439,324	2,398,455,403	8,414,894,727
Actuarial Value of Assets*	<u>2,353,715,450</u>	<u>2,979,621,518</u>	<u>5,333,336,968</u>
Unfunded Accrued Liability	\$ 5,775,110,328	\$ 151,820,904	\$ 5,926,931,232
<b>Total</b>			
ASA Balances and Annuities	\$ 3,216,902,501	\$ 795,148,087	\$ 4,012,050,588
Pension Accrued Liability	13,065,163,458	2,819,411,019	15,884,574,477
Actuarial Value of Assets*	<u>5,382,409,789</u>	<u>3,422,553,833</u>	<u>8,804,963,622</u>
Unfunded Accrued Liability	\$10,899,656,170	\$ 192,005,273	\$11,091,661,443

\* Actuarial Value of Assets is 113.18769% of Market Value of Assets and is allocated between actives/retirees and Pre-96/Post-96 in the same proportion as Market Value shown above.

## ***Analysis of Financial Experience***

<b>\$Millions</b>	<b>Pre-1996 Account</b>	<b>1996 Account</b>	<b>Total Fund</b>
<b>6/30/2009 Unfunded Accrued Liability<sup>1</sup></b>	<b>\$ 10,928</b>	<b>\$ 207</b>	<b>\$ 11,135</b>
2009 – 2010 Investment (gain)/loss	(122)	(114)	(236)
Demographic experience / 2010 data	(139)	(1)	(140)
Miscellaneous Other <sup>2</sup>	86	(8)	78
Assumption/Method Changes <sup>3</sup>	<u>163</u>	<u>108</u>	<u>271</u>
Net Change	\$ (12)	\$ (15)	\$ (27)
<b>6/30/2010 Unfunded Accrued Liability<sup>1</sup></b>	<b>\$ 10,916</b>	<b>\$ 192</b>	<b>\$ 11,108</b>

<sup>1</sup> Based on pension and ASA annuities only, i.e. net of ASA account balances.

<sup>2</sup> Miscellaneous Other includes changes due to increases for benefit accruals and expected net interest on assets and liabilities, offset by decreases for contributions and a 13<sup>th</sup> check to retirees in lieu of the assumed 2011 COLA.

<sup>3</sup> Change in interest rate from 7.5% to 7.0% and assumed COLA from 1.5% to 1.0%.

**Calculated Employer Contribution Rate**

**1996 Account**

	6/30/2010	% of Projected Payroll for Fiscal 2011	Projected Employer Contribution for Fiscal 2012
Normal Cost	\$ 143,267,466	5.85%	
Amortization of Unfunded Accrued Liability			
Unfunded Accrued Liability (UAL)*	\$ 191,662,151		
Unamortized UAL from Prior Years	<u>205,103,432</u>		
Net Unamortized UAL	\$ (13,441,281)		
Amortization Factor (30-years, level dollar)	13.2777		
Current Year Amortization Payment	\$ (1,012,320)		
Payments Established in Prior Years	<u>15,612,522</u>		
Total Amortization Payments	\$ 14,600,202	0.60%	
<b>Calculated Employer Contribution Rate</b>	<b>\$ 157,867,668</b>	<b>6.45%</b>	<b>\$ 174,000,000</b>

- The dollar contribution, based on calculated rates, is a projection to the 2012 fiscal year at a 10.0% payroll growth rate assumption for the 1996 Account and is provided for illustrative purposes.
- The calculated contribution rate for the 1996 Account is determined as if it were a stand-alone plan.

\* Pension and ASA annuity only

**Pre-1996 Account**

<b>Expected Pension Benefit Payments</b>	<b>\$ 780,400,000</b>	<b>\$ 813,300,000</b>
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- The Pre-1996 Account is funded on a pay-as-you-go basis. The figures shown above reflect the expected pension payments to be made during fiscal year 2011 and fiscal year 2012.
- Although not shown here, a Pre-1996 Account normal cost plus a 30-year, level-dollar UAL amortization was calculated and has been reflected in the Annual Required Contribution shown in the GASB Disclosures section.

**GASB Statements No. 25 and No. 27**

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**Required Supplementary Information**

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

Valuation Date	June 30, 2010
Actuarial Cost Method	Entry Age Actuarial Cost Method
Amortization Method	Level Dollar
Amortization Period	30 Years
Asset Valuation Method	4-Year Smoothed Market Value with Corridor
Actuarial Assumptions:	
Investment Rate of Return	7.00% (Changed from 7.50% on June 30, 2009)
Projected Pay Increases	3.50 – 12.50% (includes 3.00% wage inflation)
Cost-of-Living Adjustments	1.0% Compounded Annually on Pension Portion (Changed from 1.5% on June 30, 2009)

Membership in the plan consisted of the following at June 30, 2010, the date of the latest actuarial valuation:

	<b><u>2010</u></b>
Retired Members and Beneficiaries Receiving Benefits	45,659
Terminated Plan Members Entitled to but Not Yet Receiving Benefits	
Vested	7,670
Nonvested	35,847
Active Plan Members	<u>72,872</u>
Total	162,048

***GASB Statements No. 25 and No. 27***

**Required Supplementary Information**

**Schedule of Funding Progress**

Valuation Date June 30	Actuarial Value of Assets (a)	Entry Age Accrued Liability (b)	Unfunded Accrued Liability (UAL) (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	UAL 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
2005	7,065,299,476	16,264,893,444	9,199,593,968	43.4	3,734,329,113	246.4
2006	7,686,688,965	17,365,572,132	9,678,883,167	44.3	3,802,721,221	254.5
2007	8,476,559,086	18,815,812,935	10,339,253,849	45.1	4,267,995,166	242.3
2008	9,034,047,394	18,750,062,742	9,716,015,348	48.2	4,348,535,867	223.4
2009	8,029,820,891	19,162,625,560	11,132,804,669	41.9	4,339,032,221	256.6
2010	8,804,963,622	19,896,625,065	11,091,661,443	44.3	4,312,610,704	257.2

**Schedule of Employer Contributions**

Fiscal Year Ending	Valuation Date June 30	Annual Required Contribution	Actual Employer Contribution	Percentage Contributed
1998	1996	\$ 508,940,065	\$ 465,350,488	91.4%
1999	1997	508,259,679	612,349,218	120.5
2000	1998	524,815,537	647,441,260	123.4
2001	1999	547,532,673	689,219,756	125.9
2002	2000	537,789,669	566,226,658	105.3
2003	2001	572,226,197	602,231,775	105.2
2004	2002	638,541,074	438,180,343	68.6
2005	2003	619,186,005	484,778,888	78.3
2006	2004	672,555,533	701,340,085	104.3
2007	2005	742,882,002	753,039,657	101.4
2008	2006	800,059,308	808,128,686	101.0
2009	2007	819,638,258	850,156,195	103.7
2010	2008	952,120,349	881,013,054	92.5
2011	2009	1,048,649,181		
2012	2010	1,039,857,902		

***GASB Statements No. 25 and No. 27***

**Development of the Net Pension Obligation (NPO)**

**Pre-1996 Account**

\$000's	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Fiscal Year	ARC	Interest on NPO	ARC Adjustment (8) / (4)	Amortization Factor	Net Cost (1) + (2) - (3)	Actual Employer Contribution	Change in NPO (5) - (6)	NPO at BOY	NPO at EOY (7) + (8)
1988	\$ 214,776	\$ 0	\$ 0	12.5944	\$ 214,776	\$ 149,987	\$ 64,789	\$ 0	\$ 64,789
1989	236,695	4,859	5,144	12.5944	236,410	162,431	73,979	64,789	138,768
1990	236,695	10,408	11,018	12.5944	236,084	201,260	34,824	138,768	173,592
1991	319,429	13,019	13,783	12.5944	318,665	241,400	77,265	173,592	250,857
1992	357,575	18,814	19,918	12.5944	356,471	206,626	149,845	250,857	400,703
1993	394,291	30,053	31,816	12.5944	392,528	204,081	188,447	400,703	589,149
1994	416,022	44,186	46,779	12.5944	413,430	230,795	182,635	589,149	771,784
1995	436,399	57,884	61,280	12.5944	433,003	239,177	193,826	771,784	965,610
1996	456,847	72,421	76,670	12.5944	452,598	307,337	145,261	965,610	1,110,871
1997	481,927	83,315	88,204	12.5944	477,039	519,844	(42,805)	1,110,871	1,068,065
1998	502,040	80,105	84,805	12.5944	497,340	436,138	61,202	1,068,065	1,129,268
1999	484,671	84,695	89,664	12.5944	479,702	571,157	(91,455)	1,129,268	1,037,812
2000	486,946	77,836	82,403	12.5944	482,379	593,045	(110,666)	1,037,812	927,147
2001	494,779	69,536	73,616	12.5944	490,699	623,982	(133,283)	927,147	793,864
2002	474,274	59,540	63,312	12.5390	470,502	482,681	(12,179)	793,864	781,685
2003	496,034	58,626	62,638	12.4794	492,022	508,148	(16,126)	781,685	765,559
2004	532,326	57,417	61,662	12.4154	528,081	357,799	170,282	765,559	935,841
2005	516,267	70,188	75,798	12.3465	510,657	394,387	116,270	935,841	1,052,111
2006	556,460	78,908	89,083	11.8104	546,285	601,259	(54,974)	1,052,111	997,137
2007	602,904	74,785	85,253	11.6962	592,436	636,039	(43,603)	997,137	953,534
2008	678,050	71,515	82,390	11.5734	667,175	675,682	(8,507)	953,534	945,027
2009	700,307	80,877	80,017	11.8104	691,168	706,366	(15,198)	945,027	929,829
2010	850,493	69,737	78,730	11.8104	841,500	727,766	113,734	929,829	1,043,563

**1996 Account**

\$000's	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Fiscal Year	ARC	Interest on NPO	ARC Adjustment (8) / (4)	Amortization Factor	Net Cost (1) + (2) - (3)	Actual Employer Contribution	Change in NPO (5) - (6)	NPO at BOY	NPO at EOY (7) + (8)
1998	\$ 6,900	\$ 0	\$ 0	12.5944	\$ 6,900	\$ 29,212	\$ (22,312)	\$ 0	\$ (22,312)
1999	23,589	(1,673)	(1,772)	12.5944	23,688	41,192	(17,504)	(22,312)	(39,816)
2000	37,870	(2,986)	(3,161)	12.5944	38,045	54,396	(16,351)	(39,816)	(56,167)
2001	52,754	(4,213)	(4,460)	12.5944	53,001	65,238	(12,237)	(56,167)	(68,404)
2002	63,516	(5,130)	(5,455)	12.5390	63,841	83,546	(19,705)	(68,404)	(88,109)
2003	76,192	(6,608)	(7,060)	12.4794	76,644	94,083	(17,439)	(88,109)	(105,548)
2004	106,215	(7,916)	(8,501)	12.4154	106,800	80,381	26,419	(105,548)	(79,129)
2005	102,919	(5,935)	(6,409)	12.3465	103,393	90,392	13,001	(79,129)	(66,128)
2006	116,096	(4,960)	(5,599)	11.8104	116,735	100,081	16,654	(66,128)	(49,474)
2007	139,978	(3,711)	(4,230)	11.6962	140,497	117,001	23,496	(49,474)	(25,978)
2008	122,009	(1,948)	(2,245)	11.5734	122,306	132,447	(10,141)	(25,978)	(36,119)
2009	119,331	(2,709)	(3,058)	11.8104	119,680	143,790	(24,110)	(36,119)	(60,229)
2010	101,627	(4,517)	(5,100)	11.8104	102,210	153,247	(51,037)	(60,229)	(111,266)

ARC = Annual Required Contribution  
BOY = Beginning of Year  
EOY = End of Year

Additional Information:  
Annual actuarial valuation reports not issued for FY1988 & FY1990 – valuations conducted bi-annually prior to FY1991.  
Assumed 40-year amortization period for FY1988 – FY1997 since annual actuarial valuation reports were not retained prior to FY1998.

***GASB Statements No. 25 and No. 27***

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**Statement of Plan Net Assets**

**Assets**

Cash and Cash Equivalents	\$ 589,589,000
Securities Lending Collateral	916,206,000
Receivables	
Employer Contributions	\$ 35,085,000
Due from PERF	1,371,000
Member Contributions	27,433,000
Member Benefits	582,000
Securities Sold	101,443,000
Interest and Dividends	<u>33,830,000</u>
Total Receivables	\$ 199,744,000
Investments	
Equity Securities	\$ 2,495,072,000
Debt Securities	4,406,995,000
Other	<u>708,940,000</u>
Total Investments	\$ 7,611,007,000
Capitalized Assets	2,144,000
Insurance Premium Paid in Advance	0
Other	<u>0</u>
Total Assets	\$ 9,318,690,000

**Liabilities**

Accrued Benefits Payable	\$ 70,463,000
Accrued Salaries Payable	141,000
Accrued Liability for Compensated Absences - Current	70,000
Accounts Payable	5,419,000
Due to PERF	167,000
Securities Lending Collateral	916,206,000
Payables for Securities Purchased	<u>185,395,000</u>
Total Current Liabilities	\$ 1,177,861,000
Accrued Liability for Compensated Absences - Long-Term	<u>60,000</u>
Total Liabilities	\$ <u>1,177,921,000</u>

**Net Assets Held in Trust for Pension Benefits** **\$ 8,140,769,000**

**GASB Statements No. 25 and No. 27**

**Statement of Changes in Plan Net Assets**

	<b>6/30/2009 thru 6/30/2010</b>
<b>Net Assets at Beginning of Year</b>	<b>\$ 7,199,138,000</b>
Additions	
Contributions	
Member Contributions	\$ 131,676,000
Employer Contributions	849,855,000
Employer Contributions - Pension Stabilization	<u>30,000,000</u>
Total Contributions	\$ 1,011,531,000
Investments	
Net Appreciation / (Depreciation) in Fair Value	\$ 802,261,000
Interest and Dividend Income	204,202,000
Securities Lending Income	2,460,000
Less Investment Expenses	
Investment Fees	(42,892,000)
Securities Lending Fees	(475,000)
Other	<u>0</u>
Net Investment Income	\$ 965,556,000
Other Additions	
Transfers from Other Retirement Funds	\$ 5,510,000
Annuity and Disability Refunds	0
Outdated Benefit Checks	0
Reimbursement of Administrative Expenses	<u>0</u>
Total Other Additions	<u>\$ 5,510,000</u>
Total Additions	\$ 1,982,597,000
Deductions	
Pension and Disability Benefits	\$ 1,017,104,000
Distributions of Contributions and Interest	10,447,000
Claims on Outdated Benefit Checks	0
Administrative Expenses	7,862,000
Project Expenditures	2,884,000
Depreciation and Amortization Expenses	330,000
Transfers to Other Retirement Funds	<u>2,339,000</u>
Total Deductions	<u>\$ 1,040,966,000</u>
Change in Net Assets Held in Trust for Pension Benefits	\$ 941,631,000
<b>Net Assets at End of Year</b>	<b>\$ 8,140,769,000</b>

## ***Member Data***

The tables below summarize the member data used in the valuation. The pages that follow show various distributions of the member groups.

### **Pre-1996 Account**

	<b>Males</b>	<b>Females</b>	<b>Total</b>
<b>Number of Actives</b>	<b>6,966</b>	<b>19,473</b>	<b>26,439</b>
- Average Age	54.1	53.9	53.9
- Average Service	27.8	25.7	26.3
- Average Pay	\$ 75,333	\$ 68,830	\$ 70,544
<b>Number of Vested Inactives</b>	<b>1,306</b>	<b>3,903</b>	<b>5,209</b>
- Average Age	58.9	58.0	58.2
- Average Service	26.1	22.4	23.3
<b>Number of Nonvested Inactives</b>	<b>2,077</b>	<b>6,072</b>	<b>8,149</b>
<b>Number of Retirees and Beneficiaries</b>	<b>15,339</b>	<b>28,139</b>	<b>43,478</b>
- Average Age	71.7	72.6	72.3
- Average Years Retired	12.3	13.1	12.8
- Average Monthly Annuity	\$ 212	\$ 164	\$ 181
- Average Monthly Pension	\$ 1,521	\$ 1,232	\$ 1,334
<b>Total Number of Members</b>	<b>25,688</b>	<b>57,587</b>	<b>83,275</b>

### **1996 Account**

	<b>Males</b>	<b>Females</b>	<b>Total</b>
<b>Number of Actives</b>	<b>12,406</b>	<b>34,027</b>	<b>46,433</b>
- Average Age	38.6	38.6	38.6
- Average Service	9.5	8.6	8.8
- Average Pay	\$ 58,314	\$ 50,668	\$ 52,711
<b>Number of Vested Inactives</b>	<b>638</b>	<b>1,823</b>	<b>2,461</b>
- Average Age	50.3	51.3	51.0
- Average Service	16.5	15.0	15.4
<b>Number of Nonvested Inactives</b>	<b>7,329</b>	<b>20,369</b>	<b>27,698</b>
<b>Number of Retirees and Beneficiaries</b>	<b>887</b>	<b>1,294</b>	<b>2,181</b>
- Average Age	65.7	65.8	65.7
- Average Years Retired	6.4	6.2	6.3
- Average Monthly Annuity	\$ 186	\$ 136	\$ 156
- Average Monthly Pension	\$ 1,660	\$ 1,220	\$ 1,399
<b>Total Number of Members</b>	<b>21,260</b>	<b>57,513</b>	<b>78,773</b>

### **Total**

	<b>Males</b>	<b>Females</b>	<b>Total</b>
<b>Number of Actives</b>	<b>19,372</b>	<b>53,500</b>	<b>72,872</b>
- Average Age	44.2	44.2	44.2
- Average Service	16.1	14.8	15.2
- Average Pay	\$ 64,434	\$ 57,278	\$ 59,181
<b>Number of Vested Inactives</b>	<b>1,944</b>	<b>5,726</b>	<b>7,670</b>
- Average Age	56.1	55.8	55.9
- Average Service	22.9	20.0	20.8
<b>Number of Nonvested Inactives</b>	<b>9,406</b>	<b>26,441</b>	<b>35,847</b>
<b>Number of Retirees and Beneficiaries</b>	<b>16,226</b>	<b>29,433</b>	<b>45,659</b>
- Average Age	71.4	72.3	72.0
- Average Years Retired	12.0	12.8	12.5
- Average Monthly Annuity	\$ 211	\$ 163	\$ 180
- Average Monthly Pension	\$ 1,529	\$ 1,231	\$ 1,337
<b>Total Number of Members</b>	<b>46,948</b>	<b>115,100</b>	<b>162,048</b>

**Active Members: Pre-1996 Account**

**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	-	-	-	-	-	-	-	-
20-24	-	-	-	-	-	-	-	-
25-29	-	-	-	-	-	-	-	-
30-34	1	-	-	-	-	-	-	1
35-39	46	26	79	438	1	-	-	590
40-44	85	84	141	1,795	613	2	-	2,720
45-49	58	57	59	741	2,034	828	4	3,781
50-54	51	35	55	669	1,177	2,163	1,209	5,359
55-59	61	27	59	729	1,126	1,222	4,679	7,903
60-64	35	23	32	347	690	716	3,270	5,113
65-69	11	10	18	62	97	104	556	858
70-74	2	5	2	5	7	11	59	91
75-79	-	4	1	4	-	1	10	20
80 & Over	-	-	1	1	-	-	1	3
<b>Totals</b>	350	271	447	4,791	5,745	5,047	9,788	26,439

Average Age: 53.9  
Average Service: 26.3

**Active Members: 1996 Account**

**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	-	-	-	-	-	-	-	-
20-24	1,193	1	-	-	-	-	-	1,194
25-29	6,757	2,117	1	-	-	-	-	8,875
30-34	2,234	5,835	1,695	1	-	-	-	9,765
35-39	1,288	1,994	4,318	567	-	-	-	8,167
40-44	1,010	1,357	1,926	1,284	195	4	-	5,776
45-49	747	1,029	1,190	557	532	132	1	4,188
50-54	541	749	1,143	556	297	317	112	3,715
55-59	296	474	831	498	320	191	320	2,930
60-64	157	228	406	269	179	72	162	1,473
65-69	40	73	67	41	19	11	18	269
70-74	28	13	8	5	2	1	2	59
75-79	9	8	2	1	-	-	-	20
80 & Over	1	1	-	-	-	-	-	2
<b>Totals</b>	14,301	13,879	11,587	3,779	1,544	728	615	46,433

Average Age: 38.6  
Average Service: 8.8

**Inactive Vested Members: Pre-1996 Account**

**By Attained Age and Years of Service**

Attained Age	Years of Service at Termination							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
35-39	-	-	44	6	-	-	-	50
40-44	-	-	154	77	14	-	-	245
45-49	-	-	222	140	77	17	-	456
50-54	-	-	205	177	130	95	25	632
55-59	-	-	328	251	207	145	518	1,449
60-64	-	-	341	188	205	201	793	1,728
65-69	-	-	76	39	68	54	243	480
70-74	-	-	11	6	8	4	27	56
75-79	-	-	7	1	-	2	7	17
80 & Over	-	-	69	18	4	-	5	96
<b>Totals</b>	-	-	1,457	903	713	518	1,618	5,209

Average Age: 58.2  
Average Service: 23.3

**Inactive Vested Members: 1996 Account**

**By Attained Age and Years of Service**

Attained Age	Years of Service at Termination							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
30-34	-	-	31	-	-	-	-	31
35-39	-	-	311	21	-	-	-	332
40-44	-	-	255	73	8	-	-	336
45-49	-	-	167	95	47	3	1	313
50-54	-	-	248	99	54	21	7	429
55-59	-	-	243	131	66	40	43	523
60-64	-	-	185	84	42	23	43	377
65-69	-	-	61	16	10	9	15	111
70-74	-	-	4	1	1	-	-	6
75-79	-	-	2	1	-	-	-	3
80 & Over	-	-	-	-	-	-	-	-
<b>Totals</b>	-	-	1,507	521	228	96	109	2,461

Average Age: 51.0  
Average Service: 15.4

***Retired Members: Pre-1996 Account***

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**By Attained Age and Completed Years of Retirement**

Attained Age	Years of Retirement							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
Under 40	21	44	13	4	5	-	2	89
40-44	6	11	4	5	-	-	-	26
45-49	6	14	15	14	3	2	-	54
50-54	68	38	28	12	11	2	2	161
55-59	1,566	198	71	43	25	4	6	1,913
60-64	4,307	3,483	281	83	48	19	6	8,227
65-69	2,371	4,139	2,507	287	70	24	11	9,409
70-74	408	1,786	3,240	1,605	263	48	28	7,378
75-79	13	352	1,651	2,556	922	251	49	5,794
80-84	13	80	276	1,628	2,032	634	270	4,933
85-89	7	6	37	222	1,264	1,061	475	3,072
90-94	5	1	8	28	131	723	811	1,707
95-99	1	1	2	1	3	58	532	598
100 & Over	1	1	-	2	-	-	113	117
<b>Totals</b>	<b>8,793</b>	<b>10,154</b>	<b>8,133</b>	<b>6,490</b>	<b>4,777</b>	<b>2,826</b>	<b>2,305</b>	<b>43,478</b>

Average Age: 72.3  
Average Years Retired: 12.8

**Retired Members: 1996 Account**

**By Attained Age and Completed Years of Retirement**

Attained Age	Years of Retirement							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
Under 40	5	1	1	-	-	-	-	7
40-44	1	4	-	-	-	-	-	5
45-49	7	6	-	-	-	-	-	13
50-54	18	6	3	-	1	-	-	28
55-59	165	33	5	-	1	-	-	204
60-64	418	301	16	1	-	-	-	736
65-69	256	306	116	3	-	-	-	681
70-74	48	143	104	30	5	-	-	330
75-79	6	25	40	38	5	-	-	114
80-84	2	6	6	17	14	-	1	46
85-89	-	-	2	2	9	1	1	15
90 & Over	-	-	-	1	1	-	-	2
<b>Totals</b>	926	831	293	92	36	1	2	2,181

Average Age: 65.7  
Average Years Retired: 6.3

***Retired Members: Pre-1996 Account***

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**By Year of Retirement**

Year of Retirement As of June 30	Number	Monthly Pension	
		Total	Average
Before 1976	726	\$ 324,031	\$ 446
1976	192	106,588	555
1977	193	113,387	587
1978	277	168,310	608
1979	339	206,914	610
1980	399	258,336	647
1981	409	256,225	626
1982	389	247,622	637
1983	485	323,280	667
1984	556	383,604	690
1985	795	579,339	729
1986	690	518,818	752
1987	812	651,758	803
1988	923	795,653	862
1989	749	673,639	899
1990	1,179	1,202,087	1,020
1991	1,158	1,269,654	1,096
1992	1,053	1,188,407	1,129
1993	1,112	1,343,643	1,208
1994	1,246	1,546,640	1,241
1995	1,589	2,043,262	1,286
1996	1,572	2,062,732	1,312
1997	1,362	1,775,480	1,304
1998	1,721	2,229,142	1,295
1999	1,582	2,162,718	1,367
2000	1,836	2,614,932	1,424
2001	1,829	2,670,851	1,460
2002	2,121	3,077,802	1,451
2003	1,874	2,796,753	1,492
2004	2,175	3,372,734	1,551
2005	2,085	3,425,280	1,643
2006	2,262	3,816,310	1,687
2007	2,139	3,623,210	1,694
2008	2,560	4,507,605	1,761
2009	1,853	3,379,558	1,824
2010	1,236	2,300,446	1,861
<b>Totals</b>	<b>43,478</b>	<b>\$ 58,016,750</b>	<b>\$ 1,334</b>

***Retired Members: 1996 Account***

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**By Year of Retirement**

Year of Retirement As of June 30	Number	Monthly Pension	
		Total	Average
1975	1	\$ 287	\$ 287
1981	1	259	259
1982	1	936	936
1986	2	1,562	781
1987	6	4,179	696
1988	4	2,621	655
1989	5	3,767	753
1990	11	10,280	935
1991	14	13,400	957
1992	12	14,373	1,198
1993	8	7,935	992
1994	17	21,647	1,273
1995	27	31,705	1,174
1996	34	43,410	1,277
1997	31	37,808	1,220
1998	45	53,421	1,187
1999	52	69,105	1,329
2000	85	105,084	1,236
2001	107	142,827	1,335
2002	143	204,176	1,428
2003	171	233,024	1,363
2004	197	270,600	1,374
2005	174	261,932	1,505
2006	173	244,457	1,413
2007	196	263,941	1,347
2008	250	372,517	1,490
2009	236	349,222	1,480
2010	178	286,731	1,611
<b>Totals</b>	<b>2,181</b>	<b>\$ 3,051,205</b>	<b>\$ 1,399</b>

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

## ***Retired Members***

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### **Reconciliation of Benefit Recipients, July 1, 2009 to July 1, 2010**

#### **Pre-1996 Account**

	<b>Number of Members</b>	<b>Sum of Annual Allowances*</b>
Beginning of Year Rolls	42,548	\$ 762,066,658
Added to Rolls	1,940	47,657,283
Removed from Rolls	(1,010)	(11,982,276)
Net Transfers to 1996 Account	0	0
Benefit Changes		(6,968,893)
End of Year Rolls	43,478	\$ 790,772,772
Percentage Increase in Annual Allowances		3.77%
Average Annual Allowances		\$ 18,188

#### **1996 Account**

	<b>Number of Members</b>	<b>Sum of Annual Allowances*</b>
Beginning of Year Rolls	1,944	\$ 36,312,332
Added to Rolls	249	4,859,402
Removed from Rolls	(12)	(129,306)
Net Transfers to Pre-1996 Account	0	0
Benefit Changes		(341,332)
End of Year Rolls	2,181	\$ 40,701,096
Percentage Increase in Annual Allowances		12.1%
Average Annual Allowances		\$ 18,662

\* Pension and ASA annuity

## ***Retired Members***

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### **Number of Benefit Recipients by Benefit Option**

#### **Pre-1996 Account**

<b>Amount of Monthly Benefit*</b>	<b>Option A-1</b>	<b>Option A-2</b>	<b>Option A-3</b>	<b>Option B-1</b>	<b>Option B-2</b>	<b>Option B-3</b>	<b>Survivors</b>	<b>Disability</b>	<b>Total</b>
\$1-\$500	2,900	1,347	325	1,494	459	656	681	116	7,978
\$501-\$1,000	2,482	1,706	429	2,639	855	1,008	255	206	9,580
\$1,001-\$1,500	2,918	2,182	380	3,702	1,188	1,255	122	196	11,943
\$1,501-\$2,000	2,155	1,997	251	2,754	934	1,136	103	84	9,414
\$2,001-\$3,000	812	779	102	875	330	408	26	13	3,345
Over \$3,000	290	268	30	339	134	150	7	0	1,218
<b>Total</b>	<b>11,557</b>	<b>8,279</b>	<b>1,517</b>	<b>11,803</b>	<b>3,900</b>	<b>4,613</b>	<b>1,194</b>	<b>615</b>	<b>43,478</b>

#### **1996 Account**

<b>Amount of Monthly Benefit*</b>	<b>Option A-1</b>	<b>Option A-2</b>	<b>Option A-3</b>	<b>Option B-1</b>	<b>Option B-2</b>	<b>Option B-3</b>	<b>Survivors</b>	<b>Disability</b>	<b>Total</b>
\$1-\$500	132	70	12	86	8	17	19	40	384
\$501-\$1,000	142	97	38	127	23	38	12	26	503
\$1,001-\$1,500	134	83	20	129	36	45	2	7	456
\$1,501-\$2,000	101	75	14	126	33	55	4	5	413
\$2,001-\$3,000	55	39	9	91	16	26	3	2	241
Over \$3,000	30	41	3	58	18	33	1	0	184
<b>Total</b>	<b>594</b>	<b>405</b>	<b>96</b>	<b>617</b>	<b>134</b>	<b>214</b>	<b>41</b>	<b>80</b>	<b>2,181</b>

\* Pension only

## ***Retired Members***

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### **Schedule of Average Benefit Payments by Service at Retirement**

#### **Pre-1996 Account**

	Years of Service at Retirement						Total
	<10	10-14	15-19	20-24	25-29	30+	
Avg. Monthly Defined Benefit Pension	\$248	\$250	\$477	\$758	\$1,103	\$1,681	\$1,334
Avg. Monthly Annuity	\$14	\$97	\$92	\$123	\$154	\$217	\$181
Avg. Final Avg. Salary at Retirement	\$18,579	\$20,904	\$32,341	\$38,788	\$44,299	\$51,065	\$46,074
Number of Benefit Recipients	40	1,149	3,696	5,100	7,273	26,220	43,478

#### **1996 Account**

	Years of Service at Retirement						Total
	<10	10-14	15-19	20-24	25-29	30+	
Avg. Monthly Defined Benefit Pension	\$247	\$407	\$655	\$905	\$1,341	\$2,032	\$1,399
Avg. Monthly Annuity	\$28	\$73	\$81	\$117	\$184	\$204	\$156
Avg. Final Avg. Salary at Retirement	\$39,220	\$39,068	\$45,668	\$51,890	\$57,228	\$65,781	\$56,817
Number of Benefit Recipients	27	193	356	279	309	1,017	2,181

## ***Closed Group Actuarial Projections***

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The schedules on the following pages for the Pre-1996 Account 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 payment stream.

Projection results are useful in demonstrating changing relationships among key elements affecting system financial activity. For example, the relationship between annual benefits paid and assets will change over time. Projections are not predictions of specific future events and do not provide numeric precision in absolute terms. The future pension benefits shown in the table are estimates. Actual payments will likely differ from the amounts shown; however, understanding the relative growth is critical.

**Closed Group Projection: Pre-1996 Account**

\$Millions

Fiscal Year	Active Members		Inactive Members	
	Number*	Payroll*	Number*	Pension Benefits Paid*
2011	26,439	\$ 1,865.1	48,687	\$ 780.4
2012	23,766	1,737.3	50,311	813.3
2013	21,311	1,612.5	51,688	866.9
2014	19,010	1,488.0	52,858	917.6
2015	16,905	1,368.5	53,783	965.2
2016	14,978	1,253.6	54,422	1,004.0
2017	13,231	1,144.4	54,823	1,038.0
2018	11,639	1,039.9	55,016	1,068.8
2019	10,191	940.3	55,008	1,095.3
2020	8,891	847.2	54,801	1,117.4
2021	7,723	759.9	54,408	1,135.8
2022	6,672	677.3	53,830	1,150.3
2023	5,735	600.7	53,074	1,160.8
2024	4,898	529.3	52,160	1,167.4
2025	4,150	462.8	51,103	1,170.6
2026	3,471	399.4	49,924	1,169.8
2027	2,862	340.0	48,628	1,165.1
2028	2,323	284.9	47,213	1,156.1
2029	1,863	235.9	45,673	1,142.3
2030	1,476	193.1	44,013	1,124.6
2031	1,151	155.4	42,246	1,102.3
2032	882	123.1	40,394	1,075.8
2033	662	95.3	38,479	1,044.8
2034	487	72.5	36,522	1,009.9
2035	351	54.0	34,535	971.6
2036	247	39.2	32,519	930.3
2037	170	27.9	30,486	886.6
2038	114	19.3	28,453	840.9
2039	74	13.0	26,437	793.9
2040	47	8.5	24,457	746.3

\*Active and inactive number counts are as of the beginning of the fiscal year. Payroll and benefits paid are expected amounts during the fiscal year.

*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.*

***Closed Group Projection: Pre-1996 Account (Continued)***

\$Millions

Fiscal Year	Active Members		Inactive Members	
	Number*	Payroll*	Number*	Pension Benefits Paid*
2041	26	\$ 4.9	22,528	\$ 698.4
2042	13	2.5	20,664	650.8
2043	5	0.9	18,878	603.8
2044	1	0.2	17,178	557.9
2045	-	0.1	15,575	513.6
2046	-	-	14,073	471.1
2047	-	-	12,675	430.6
2048	-	-	11,381	392.2
2049	-	-	10,189	356.0
2050	-	-	9,096	322.0
2051	-	-	8,095	290.1
2052	-	-	7,183	260.3
2053	-	-	6,353	232.6
2054	-	-	5,599	206.9
2055	-	-	4,916	183.1
2056	-	-	4,299	161.2
2057	-	-	3,742	141.0
2058	-	-	3,241	122.5
2059	-	-	2,793	105.7
2060	-	-	2,393	90.6

\*Active and inactive number counts are as of the beginning of the fiscal year. Payroll and benefits paid are expected amounts during the fiscal year.

*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.*

## **Summary of Benefit Provisions**

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### **Regular Retirement**

<b>Eligibility</b>	Age 65 with ten 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.
<b>Annual Amount</b>	State pension equal to total service times 1.1% of Average Annual Compensation.

### **Early Retirement**

<b>Eligibility</b>	Age 50 with 15 or more years of service.
<b>Annual Amount</b>	State pension is computed as regular retirement benefit, but reduced for each month between age at early retirement and attainment of age 65. The age reduction factor is calculated as the sum of the following: <ul style="list-style-type: none"><li>• 1/10 of 1% for each month from age 60 to 65.</li><li>• 5/12 of 1% for each month from age at early retirement to 60.</li></ul>

### **Deferred Retirement**

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

### **Disability Retirement**

#### **Regular Disability Benefit:**

<b>Eligibility</b>	Five years of service.
<b>Annual Amount</b>	\$125 per month plus \$5 per month for each year of service credit over five years.

#### **Disability Retirement Benefit:**

<b>Eligibility</b>	Five years of service and determined to be disabled by the Social Security Administration. Annual verification of Social Security disability is required.
<b>Annual Amount</b>	Computed as a regular retirement benefit using creditable service to the date of disability and without reduction for early retirement. The minimum benefit is \$180 per month.

## **Summary of Benefit Provisions**

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### **Death Before Retirement**

<b>Eligibility</b>	15 years of service. Spouse to whom member had been married for two or more years is automatically eligible, or a dependent may be designated as beneficiary.
<b>Annual Amount</b>	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.

### **Average Annual Compensation**

Average of highest five years of compensation. Years do not need to be consecutive.

### **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 generally "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 (Pension)**

The normal form of benefit payment (Option A-1) is a single life annuity with a five-year certain period. There are five 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 re-calculated benefits based on a new optional form election in the event of the death of the member's spouse after retirement.

Optional forms of benefit are calculated based on 7.5% interest with a 40%/60% unisex blend of the 1983 Group Annuity Male Mortality table set back three years and the 1983 Group Annuity Male Mortality table set back seven years.

## **Summary of Actuarial Assumptions and Methods**

The assumptions used in this valuation reflect the study of experience covering the period July 1, 2002 through June 30, 2007.

<b>Investment Return Rate</b>	7.0% per year, compounded annually (net after administrative expenses).
<b>Pay Increase Assumption</b>	Sample increases are shown in a table on the following pages. The assumption for each consists of a merit and/or seniority increase, 3.0% for price inflation, and 0.25% for real wage growth.
<b>Total Active Member Payroll</b>	Assumed to annually increase 10% for the 1996 Account and decrease according to the projection in the Payout Projections section for the Pre-1996 Account for purposes of calculating the projected contribution for the 2012 fiscal year.
<b>Price Inflation</b>	3.0% per year. Price inflation is not directly tied to benefits; however, it is a component of the economic model used to determine total wage inflation.
<b>Mortality</b> <i>Healthy</i>	2008 IRS Static Mortality Table projected an additional 5 years (sex specific).
<i>Disabled</i>	2008 IRS Static Mortality Table projected an additional 5 years (sex specific).
<b>Retirement</b>	Probabilities are shown in tables on the following pages.
<b>Withdrawal</b>	Sample probabilities are shown in tables on the following pages.
<b>Disability</b>	Sample probabilities are shown in a table on the following pages.
<b>Actuarial Cost Method</b>	Entry Age Normal (level percent of pay) method, with a 30-year, closed, level dollar amortization of the Unfunded Accrued Liability arising from all sources including actuarial gains and losses.
<b>Asset Valuation Method</b>	The Actuarial Value of Assets recognizes investment gains and losses in equal installments over four years. However, the Actuarial Value is limited to no more than 20% greater than or 20% less than the Market Value of Assets. Investment experience on ASA account balances is not smoothed.
<b>Marriage Assumption</b>	100% of members are assumed to be married for purposes of valuing death-in-service benefits. Male spouses are assumed to be three years older than female spouses.
<b>Pay Increase Timing</b>	Beginning of (fiscal) year. Payroll amounts stated in the valuation data are amounts projected to be paid during the current year.
<b>Decrement Timing</b>	Decrements are assumed to occur at the beginning of the year.

## **Summary of Actuarial Assumptions and Methods**

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<b>Other</b>	Disability and withdrawal decrements do not operate after member reaches retirement eligibility. Only the withdrawal and death decrements operate during the first ten years of service.
<b>Miscellaneous Adjustments</b>	The calculated liabilities and normal costs were increased by 1% to account for the inclusion of unused sick leave in the calculation of Average Compensation.
<b>Actuarial Equivalence Basis for Optional Forms of Payment</b>	7.5% interest with a 40%/60% unisex blend of the 1983 Group Annuity Male Mortality table set back three years and the 1983 Group Annuity Male Mortality Table set back seven years.
<b>Explicit Expense Load</b>	None.
<b>COLA Assumption</b>	1.0% compounded annually on pension portion.
<b>Employee Census and Asset Data</b>	Census and asset information was furnished as of the valuation date by the Fund's Administrative Staff. Although examined thoroughly for reasonableness and consistency with prior years, the data was not otherwise audited by the Actuary.

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

**Summary of Actuarial Assumptions and Methods**

**Probabilities of Age and Service Retirement**

Regular Retirement		Rule of 85 Retirement		Early Retirement	
Age	Probability	Age	Probability	Age	Probability
				50-53	0.015
				54	0.030
		55	0.160	55	0.040
		56	0.130	56	0.050
		57	0.135	57	0.060
		58	0.145	58	0.070
		59	0.160	59	0.080
60	0.180	60	0.180		
61	0.220	61	0.220		
62	0.250	62	0.250		
63	0.200	63	0.200		
64	0.250	64	0.250		
65	0.350	65	0.350		
66	0.300	66	0.300		
67	0.200	67	0.200		
68	0.250	68	0.250		
69	0.300	69	0.300		
70	1.0000	70	1.0000		

**Probabilities of Disability**

Attained Age	Age-Based	
	Male	Female
25	0.0001	0.0001
30	0.0001	0.0001
35	0.0001	0.0001
40	0.0001	0.0001
45	0.0002	0.0002
50	0.0005	0.0005
55	0.0009	0.0009
60	0.0010	0.0010

**Summary of Actuarial Assumptions and Methods**

**Probabilities of Withdrawal**

Years of Service	Service-Based	
	Male	Female
0	0.3500	0.3500
1	0.1400	0.1500
2	0.1000	0.1200
3	0.0800	0.0950
4	0.0600	0.0850
5	0.0500	0.0750
6	0.0450	0.0650
7	0.0400	0.0550
8	0.0350	0.0500
9	0.0300	0.0450

Attained Age	Age-Based*	
	Male	Female
25	0.0250	0.0400
30	0.0250	0.0400
35	0.0230	0.0340
40	0.0180	0.0200
45	0.0130	0.0150
50	0.0350	0.0350
55	0.0350	0.0350
60	0.0350	0.0350

\*Age-Based rates apply only if 10 or more years of service.

## ***Summary of Actuarial Assumptions and Methods***

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### **Pay Increase Assumption**

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<b>Years of Service</b>	<b>Merit &amp; Seniority</b>	<b>Inflation</b>	<b>Real Wage Growth</b>	<b>Total</b>
1	9.25%	3.00%	0.25%	12.50%
5	4.50%	3.00%	0.25%	7.75%
10	3.25%	3.00%	0.25%	6.50%
15	2.00%	3.00%	0.25%	5.25%
20	0.75%	3.00%	0.25%	4.00%
25	0.25%	3.00%	0.25%	3.50%
30	0.25%	3.00%	0.25%	3.50%
35	0.25%	3.00%	0.25%	3.50%
40	0.25%	3.00%	0.25%	3.50%

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## **Definitions of Technical Terms**

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<b>Accrued Service</b>	Service credited under the system that was rendered before the date of the actuarial valuation.
<b>Accrued Liability</b>	The difference between the actuarial present value of future benefit payments and the actuarial present value of future normal costs. Also referred to as “actuarial accrued liability” or “past service liability”.
<b>Actuarial Assumptions</b>	Estimates of expected future experience with respect to rates of mortality, disability, turnover, retirement, rate 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.
<b>Actuarial Cost Method</b>	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”.
<b>Actuarial Equivalent</b>	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.
<b>Actuarial Gain (Loss)</b>	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.
<b>Actuarial Present Value</b>	The single amount now that 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.
<b>Amortization</b>	Paying off a present value with periodic payments.
<b>Normal Cost</b>	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”.
<b>Unfunded Accrued Liability</b>	The difference between the accrued liability and the actuarial value of assets. Sometimes referred to as “unfunded past service liability” or “unfunded actuarial accrued liability” or simply as “unfunded liability”.

## ***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:

**Covered Person Data:** Furnished by the Plan Administrator

Retired Members and Beneficiaries Now Receiving Benefits  
Former Employees with Vested Benefits Not Yet Payable  
Active Members

+ **Asset Data (Cash and Investments):** Furnished by the Plan Administrator

+ **Estimates of Future Experience (Actuarial Assumptions):** Established by the Board of Trustees after Consulting with the Actuary

+ **Funding Method:** The Allocation of Employer Costs to Past Service, Current Service, and Future Service

+ **Mathematically Combining the Assumptions, the Funding Method, and the Data**

= **Determination of:**

Plan Funded Status and Employer Contribution Rate

## ***Funding Objective***

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The funding objective of the ISTRF 1996 Account is to establish and receive contributions that, 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.

### **Fund Structure**

The Indiana State Teachers' Retirement Fund (TRF) is one fund comprised of a two-account structure in compliance with Indiana Code Section 5-10.4-2-2:

1. The Pre-1996 Account consists of 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.
2. The 1996 Account consists of members who were:
  - a. hired on or after July 1, 1995; or
  - b. hired before July 1, 1995, and prior to June 30, 2005:
    - i. were either hired by another school corporation or institution covered by TRF, or
    - ii. were re-hired by a covered prior employer.

### **Characteristics of the Pre-1996 Account**

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

### **Characteristics of the 1996 Account**

1. As members depart from active service in the Pre-1996 Account, their replacements will become members of the 1996 Account. If the 1996 Account were a stand-alone plan, this pattern of departures and hirings would produce a fairly constant population size.
2. Defined Benefits payable from the 1996 Account are funded by contributions from local school corporations or other institutions that employ covered members. At the time of retirement, ASA benefits payable at retirement from the 1996 Account are funded by the annuitization of 1996 Account member contributions.

## ***Plan Structures and Funding Arrangements***

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### **Funding Arrangements**

Prior to the legislation that established the two-account structure of TRF, the Defined Benefits of the Indiana State Teachers' Retirement Fund were funded with a pay-as-you-go method. Under this arrangement, amounts were appropriated to meet the current year's pension payment requirements. Defined Benefits payable from the Pre-1996 Account continue to be funded on this basis.

In 1995, the Pension Stabilization Fund was set up for the Pre-1996 Account. Since then, some pre-funding progress has been made via State appropriations to this account.

Defined Benefits payable from the 1996 Account are funded through employer percent-of-pay contributions. The Board of the Teachers' Retirement Fund sets this contribution rate after reviewing the most recent actuarial valuation report.

The contribution rate of 7.50% for fiscal year 2011 was set by the Board in fiscal year 2010 for the 1996 Account. The contribution rate of 7.50% for fiscal year 2012 was set by the Board in fiscal year 2011.