

# *Actuarial*



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

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October 8, 2004

Employee Trust Funds Board  
801 West Badger Road  
Madison, Wisconsin 53713-2526

Re: Wisconsin Retirement System (WRS)

Ladies and Gentlemen:

The basic financial objective of the WRS is to establish and receive contributions which:

- when expressed in terms of percents of active member payroll, will remain approximately level from generation-to-generation, and
- when combined with present assets and future investment return, will be sufficient to meet the financial obligations of WRS to present and future retirees and beneficiaries.

The financial objective is addressed within the annual actuarial valuation. The valuation process develops contribution rates that are sufficient to fund the plan's normal cost (i.e., the costs assigned by the valuation method to the year of service about to be rendered), as well as to fund unfunded actuarial accrued liabilities as a level percent of active member payroll over a finite period. The most recent valuations were completed based upon population data, asset data, and plan provisions as of December 31, 2003.

The plan's administrative staff provides the actuary with data for the actuarial valuation. The actuary relies on the data after reviewing it for internal and year-to-year consistency. The actuary summarizes and tabulates population data in order to analyze longer-term trends.

The actuary prepared the following supporting schedules for the Comprehensive Annual Financial Report:

Percent Increase in Salaries Next Year

Single Life Retirement Values

Rates of Retirement for Those Eligible to Retire

Early Retirement Pattern

Percentage of Active Members Withdrawing (Select and Ultimate)

Percentage of Active Members becoming Disabled

Solvency Test

Summary of Accrued and Unfunded Accrued Liabilities Employee Trust Funds Board

Assets are valued on a market related basis that recognizes assumed return fully each year and spreads each year's gain or loss above or below assumed return over a closed five-year period. The method includes a phase out of the former Transaction Amortization Account in accordance with Act 11 of 1999.

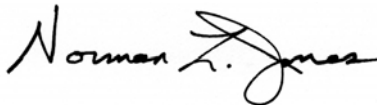
Actuarial valuations are based upon assumptions regarding future activity in specific risk areas including the rates of investment return and payroll growth, eligibility for the various classes of benefits, and longevity among retired lives. The Board adopts these assumptions after considering the advice of the actuary and other professionals. The assumptions and the methods comply with the requirements of Statement 25 of the Governmental Accounting Standards Board. Each actuarial valuation takes into account all prior differences between actual and assumed experience in each risk area and adjusts the contribution rates as needed. The December 31, 2003 valuations were based upon assumptions that were recommended in connection with a study of experience covering the 2000-2002 period. The valuations included the benefit provisions of Act 11 of 1999.

**Based upon the results of the December 31, 2003 valuations, we are pleased to report to the Board that the Wisconsin Retirement System is meeting its basic financial objective and continues in excellent financial condition in accordance with actuarial principles of level percent of payroll financing. Investment performance at least in line with assumptions continues to be portant for the WRS as it is for virtually every other retirement system.**



Respectfully submitted,

GABRIEL, ROEDER, SMITH & COMPANY



Norman L. Jones, F.S.A., M.A.A.A.

Brian B. Murphy, F.S.A., M.A.A.A.

BBM:vmb

## Wisconsin Retirement System

### Actuarial Statement of Assets and Liabilities

(in Millions \$)

	December 31, 2003	December 31, 2002	Increase (Decrease)
<b>Assets and Employer Obligations</b>			
Net Assets			
Cash, Investments & Receivables			
Less: Payables & Suspense Items			
Fixed Division	56,903.4	53,189.6	3,713.8
Variable Division	5,781.9	4,672.3	1,109.6
	-----	-----	-----
Totals	62,685.3	57,861.9	4,823.4
	-----	-----	-----
Obligations of Employers			
Unfunded Accrued Liability	526.4	1,756.9	(1,230.5)
	-----	-----	-----
<b>Total Assets</b>	<b>63,211.7</b>	<b>59,618.8</b>	<b>3,592.9</b>
	=====	=====	=====
Reserves and Surplus			
Reserves			
Actuarial Present Value of Projected Benefits Payable to Terminated Vested Participants and Active Members:			
Member Normal Contributions	14,363.9	13,885.1	478.8
Member Additional Contributions	139.2	137.8	1.4
Employer Contributions	20,000.8	19,554.2	446.6
	-----	-----	-----
Total Contributions	34,503.9	33,577.1	926.8
	-----	-----	-----
Actuarial Present Value of Projected Benefits Payable to Current Retirees and Beneficiaries:			
Fixed Annuities	24,724.0	23,202.9	1,521.1
Variable Annuities	2,892.2	3,993.1	(1,100.9)
	-----	-----	-----
Total Annuities	27,616.2	27,196.0	420.2
	-----	-----	-----
Total Reserves	62,120.1	60,773.1	1,347.0
	-----	-----	-----
Surplus			
Fixed Annuity Reserve Surplus	347.9	(60.5)	408.4
Variable Annuity Reserve Surplus	743.7	(1,093.8)	1,837.5
	-----	-----	-----
Total Surplus	1,091.6	(1,154.3)	2,245.9
	-----	-----	-----
<b>Total Reserves and Surplus</b>	<b>63,211.7</b>	<b>59,618.8</b>	<b>3,592.9</b>
	=====	=====	=====

## Summary of Benefit Provisions

### Normal Retirement Eligibility

The age a participant becomes eligible for an unreduced age and service annuity is:

General		Protective		Executive & Elected	
Age	Service	Age	Service	Age	Service
65	Any *	54	Any*	62	Any*
57	30	53	25	57	30

\* Participants first employed after 1989 and terminated before April 24, 1998, must have creditable service in five calendar years.

### Normal Retirement Annuity

The age and service annuity payable at normal retirement age is based on Final Average Earnings (FAE) and creditable service as follows:

Multiplier for Service Rendered After 1999	Multiplier for Service Rendered Before 2000	Group
2.0%	2.165%	Executive group, elected officials and protective occupation participants covered by Social Security
2.5%	2.665%	Protective occupation participants not covered by Social Security
1.6%	1.765%	All other participants

FAE is generally the average of the three highest years of earnings (July 1 - June 30 for teachers, educational support staff, and judges; calendar year for others) preceding retirement. These years do not have to be consecutive. For legislators and state constitutional officers who are ineligible to receive pay increases during their term, FAE is the statutory rate of earnings at termination.

Maximum formula annuity is 85% of FAE for protective occupation participants not

covered by Social Security, 65% of FAE for protectives covered by Social Security, and 70% for all other participants. If greater than the formula amount, an annuity equal to the actuarial equivalent of two times the required accumulated contributions is paid in lieu of the formula amount.

**Early Retirement:** Any participant who has attained age 55 and any protective occupation participant who has attained age 50 may apply for an early retirement annuity. The benefit is reduced 0.4% for each month that the annuity effective date precedes the normal retirement age. For non-protective participants terminating after 6/30/90, the 0.4% is reduced for months after the attainment of age 57 and before the annuity effective date by 0.001111% for each month of creditable service.

**Voluntary Termination Before Immediate Benefit Eligibility:** Participant may either (i) receive a refund of accumulated contributions, or (ii) leave contributions on deposit and apply for a retirement annuity on or after the minimum retirement age based upon age and accrued service at time of termination.

**Post-Retirement Adjustments:** Annuities are increased annually if the investment income credited to retired life funds is in excess of the assumed rate (presently 5%), other plan experiences are within projected ranges, and the resulting adjustment would be at least 0.5%. Slightly different provisions apply to variable annuities.

**Disability Annuity:** Eligibility generally means total and permanent incapacity to engage in gainful employment. Participant must have completed at least six months of creditable service in each of at least five out of the last seven calendar years preceding application for disability. Service requirement is waived if disability is from service-related causes.

**Disability Amounts:** Amounts payable in case of disability depend upon the plan from which payment is made and are described below.

	<b>Pre-10/16/92 WRS Plan</b>	<b>Post-10/15/92 Long-Term Disability Insurance Plan</b>
Participants Covered	Participants hired before 10/16/92 who do not elect LTDI coverage by January 2, 1997.	Participants entering after 10/15/92 and participants on 10/15/92 who elect LTDI coverage.
Benefit to age 65*	WRS formula benefit based on service projected to normal retirement age.	40% of FAE for participants covered by Social Security; 50% for non-covered participants who cannot qualify for Social Security disability benefits.
Benefit at age 65*	Continuation of pre-65 amount.	WRS benefit accrued to date of disability plus 7% of FAE money purchase benefit during disability period, both of which are adjusted in accordance with dividend rate.

\*Conversion age is later for participants becoming disabled after age 61.

**Death In Service:**

(a) Prior to age 50 for protective participants, age 55 for others, the benefit is the equivalent of twice the accumulated employee required and all additional contributions and employer amounts contributed prior to 1974 for teachers, or 1966 for others.

(b) After age 50 for protective participants, age 55 for others, the benefit is the amount that would have been paid if the participant had retired and elected the 100% survivor option. Benefit is payable to spouse, child, or other dependent.

**Interest credits:** For years after 1999, and for people with some active service after 1999, participant accounts are credited with interest at the full (fixed) effective rate. For others, accounts are credited with interest as follows:

<b>Date of Participation</b>	<b>Rate Credited For Purpose of Money Purchase</b>	
	<b>Minimum</b>	<b>Refunds</b>
Prior to 1982	Actual	Actual
January 1, 1982 and later	5%	3%

**Contribution Rates:** The financial objective of the WRS is to establish and receive contributions that will remain level from year to year and decade to decade.

Statutory required participant contributions are as follows:

General	5.0%
Executives & Elected Officials	5.5
Protectives	
- With Social Security	6.0
- Without Social Security	8.0

Non-refundable benefit adjustment contributions are also required by statute and may be paid by the employer or by the employee depending upon the employer's compensation plan. The employers contribute the remaining amounts necessary to fund the retirement system on an actuarially sound basis.

As differences between actual and assumed experience emerge, adjustments are made to contributions to maintain financial balance as follows:

- One-half of the increase or decrease is reflected in the employer normal cost rate.
- One-half of the increase or decrease is reflected in the participant-paid portion of the benefit adjustment contribution. If a decrease would reduce a benefit adjustment contribution to less than zero, participant normal contributions are reduced.

## Actuarial Method and Assumptions

The principal areas of risk assumption are:

1. Long-term **rates of investment** income likely to be generated by the assets of the retirement fund—this includes both realized and unrealized appreciation and depreciation.

2. **Rates of mortality** among participants, retirees and beneficiaries.

3. **Rates of withdrawal** of active participants.

4. **Rates of disability** among participants.

5. **Patterns of salary increases** to be experienced by participants.

6. The age and service **distribution of actual retirements**.

In making a valuation, the actuary must project the monetary value of each risk assumption for each distinct experience group for the next year and for every year over the next half-century or longer.

Once actual risk experience has occurred and been observed, it will not coincide exactly with assumed risk experience, regardless of the skill of the actuary, the completeness of the data, and the precision of the calculations. Each valuation provides a completed recalculation of assumed future risk experience and takes into account all past differences between assumed and actual risk experience. The result is a continual series of small adjustments to the computed contribution rate.

From time to time it becomes necessary to adjust the package of risk measurements to reflect basic experience trends but not random year-to-year fluctuations.

The actuarial valuation method used in the valuation was the Frozen Initial Liability Actuarial Valuation Method. Under this method, the amount of remaining unfunded accrued actuarial liabilities at any valuation date are affected only by the monthly amortization payments, compound interest, the added liability created by new employer units and any added liabilities caused by changes in benefit provisions.

### **Economic Assumptions**

The long-term rates of investment return used in making the valuation were 7.8% a year, compounded yearly for active members, and 5% a year, compounded yearly for retired lives. This latter assumption determines the extent to which future benefit payments are assumed to be made from future investment income.

Salary adjustment factors used to project earnings for each participant between the valuation date and the participant's retirement age are shown on the next page for sample ages. This assumption is used to project a participant's current earnings to the earnings upon which benefits will be based.

### % Increases in Salaries Next Year (Merit and Longevity)

Service	General	University Teachers	Public School Teachers	Protective WithSS	Protective WithoutSS	Executive and Elected
1	3.5%	4.4%	5.8%	4.0%	4.5%	1.2%
2	3.5%	4.4%	5.8%	4.0%	4.5%	1.2%
3	3.2%	4.3%	5.3%	3.6%	4.0%	1.2%
4	2.9%	4.3%	4.9%	3.2%	3.5%	1.2%
5	2.6%	4.2%	4.4%	2.8%	3.0%	1.1%
10	1.6%	3.4%	2.6%	1.7%	1.1%	1.0%
15	1.3%	2.5%	1.5%	1.2%	0.5%	0.9%
20	1.1%	2.2%	1.0%	1.0%	0.5%	0.8%
25	0.9%	2.0%	0.6%	1.0%	0.5%	0.6%
30	0.7%	1.8%	0.2%	1.0%	0.5%	0.4%

In addition to the merit and longevity increase, each person is assumed to get an economic increase of 4.1% each year.

**Population and Payroll Growth:** The active population is assumed to remain constant. The active payroll is assumed to grow 4.1% per year. This increasing payroll was recognized in amortizing unfunded actuarial accrued liabilities.

#### Decrement Probabilities

The mortality table used to measure mortality for participants was the Wisconsin Projected Experience Table for men and women. Sample retirement values from this table are shown at right. This assumption is used to measure the probabilities of participants dying before retirement and the probabilities of each benefit payment being made after retirement.

### Single Life Retirement Values (Retired Participants)

#### Wisconsin Projected Experience Table With 5% Interest

Sample Attained Ages	Present Value of \$1 Monthly for Life		Future Life Expectancy (Years)	
	Males	Females	Males	Females
40	\$204.60	\$213.51	40.3	45.1
45	194.52	205.50	35.5	40.3
50	182.57	195.63	30.8	35.4
55	168.60	183.57	26.3	30.7
60	152.23	168.96	21.9	26.1
65	133.38	151.77	17.8	21.6
70	113.07	131.92	14.0	17.3
75	92.87	110.50	10.7	13.4
80	73.24	89.29	7.9	10.1
85	56.59	69.03	5.8	7.3

The values shown above are for non-disabled participants. For disabled participants, the table on the next page is used:



**Single Life Retirement Values (Disabled Participants)**  
**Wisconsin Projected Experience Table With 5% Interest**

Sample Attained Ages	Present Value of \$1 Monthly for Life		Future Life Expectancy (Years)	
	Males	Females	Males	Females
40	\$183.98	\$195.34	31.3	35.6
45	169.92	183.77	26.7	30.9
50	154.02	169.96	22.4	26.4
55	136.46	153.62	18.3	22.0
60	116.83	134.58	14.5	17.0
65	95.34	113.44	11.0	13.8
70	73.99	90.47	8.0	10.2
75	55.14	68.00	5.6	7.2
80	38.40	48.81	3.7	4.9
85	26.03	33.04	2.4	3.1

**Active Participant Mortality Rates**

The active participant mortality assumption is used to measure the probability of participants dying while in service.

Sample Attained Ages	Mortality Rates	
	Males	Females
20	0.000145	0.000085
25	0.000179	0.000113
30	0.000234	0.000153
35	0.000324	0.000212
40	0.000472	0.000305
45	0.000844	0.000454
50	0.001526	0.000699
55	0.002460	0.001057
60	0.003788	0.001782
65	0.006433	0.003126
70	0.011998	0.005513
75	0.020418	0.011278
80	0.035773	0.020671

## Rates of Retirement for Those Eligible to Retire—Normal Retirement Pattern

### % Retiring Next Year

Age	% Retiring Next Year General		Public School		University		Protective		Exec. & Elected %
	Male %	Female %	Male %	Female %	Male %	Female %	With S.S. 6%	W/OS.S. 2%	
50									
51							7	2	
52							7	9	
53							38	38	
54							20	36	
55							20	36	
56							25	36	
57	28	27	25	30	25	20	20	36	8
58	28	27	25	30	20	20	20	40	8
59	28	25	25	30	20	20	20	30	12
60	28	25	30	30	20	20	20	30	14
61	30	25	35	35	20	20	20	30	35
62	40	30	60	40	20	25	20	15	10
63	40	35	50	35	20	30	30	15	10
64	35	35	50	25	20	30	20	15	10
65	35	30	70	30	20	25	30	40	10
66	35	30	70	25	20	25	25	40	20
67	15	20	50	25	20	25	25	40	20
68	15	15	50	20	20	20	25	40	20
69	15	15	50	20	20	20	25	40	20
70	15	15	50	20	20	20	100	100	10
71	15	15	50	20	20	20	100	100	10
72	15	15	50	20	20	20	100	100	10
73	15	15	50	20	20	20	100	100	10
74	15	15	50	20	20	20	100	100	10
75	100	100	100	100	100	100	100	100	100

## Rates of Retirement for Those Eligible to Retire—Early Retirement Pattern

## % Retiring Next Year

Age	% Retiring Next Year		Public School		University		Exec. & Elected
	General Male	General Female	Male	Female	Male	Female	
55	8%	6%	15%	11%	5%	5%	5%
56	8	6	15	11	5	5	5
57	4	5	15	11	4	5	4
58	6	5	15	12	4	5	4
59	6	5	10	12	5	10	4
60	8	8	15	15	5	10	4
61	8	8	15	15	5	10	4
62	20	18	25	25	10	10	
63	20	18	25	20	10	10	
64	15	14	15	15	10	10	

**The assumed rates of separation** from employment prior to service retirement due to disability and other causes are shown on the next page for sample ages. For other terminations it was assumed that a percentage depending on the age of participants terminating after age 35 with five or more years service would leave their contributions on deposit and be paid a benefit at normal retire-

ment age and that the remaining participants would take a separation benefit. The percentage taking a separation benefit is 100% at age 35, grading downward to 0% at retirement eligibility. All participants terminating prior to normal retirement age with less than five years of service were assumed to take a separation benefit.

**Assumed Termination Rates**  
**% of Active Participants Terminating**

Age & Service	Protective		Public Schools		University		Exec. & Elected	Other	
	With S.S.	W/O S.S.	Males	Females	Males	Females		Males	Females
0	11.0%	5.0%	11.0%	10.0%	18.0%	18.0%	9.0%	18.0%	18.0%
1	6	2.5	7.0	8.0	13.0	15.0	8.5	10.0	11.0
2	3.5	2.2	5.0	6.0	10.0	13.0	8.0	8.0	9.0
3	3.2	2.0	4.5	5.4	9.0	10.0	7.0	6.0	7.0
4	3.2	1.7	3.5	4.4	7.0	9.0	5.0	5.0	6.0
25 5 & Over	1.6	1.0	3.5	4.0	7.0	9.0	5.0	5.0	5.5
30	1.5	0.9	2.7	3.5	6.7	7.8	4.7	4.1	4.9
35	1.3	0.8	1.5	2.3	6.2	6.1	4.2	2.8	3.6
40	1.2	0.8	1.2	1.5	4.8	4.7	3.4	2.0	2.7
45	1.1	0.7	1.0	1.2	3.1	3.4	2.4	1.6	2.2
50	0.8	0.7	0.9	1.2	1.9	2.6	2.0	1.3	2.0
55	0.6	0.7	0.9	1.2	1.5	2.4	2.0	1.3	2.0
60	0.6	0.7	0.9	1.2	1.5	2.4	2.0	1.3	2.0

**Disability Rates**  
**% of Active Participants Becoming Disabled**

Age	Protectives		Public Schools		University		Exec. & Elected		General	
	With S.S.	W/O S.S.	Males	Females	Males	Females	Males	Females	Males	Females
20	0.01%	0.04%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%
25	0.01	0.04	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
30	0.01	0.05	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.04
35	0.03	0.06	0.01	0.01	0.01	0.04	0.01	0.01	0.02	0.05
40	0.05	0.11	0.02	0.02	0.01	0.06	0.01	0.01	0.06	0.07
45	0.09	0.19	0.05	0.08	0.03	0.05	0.02	0.02	0.11	0.10
50	0.30	0.59	0.15	0.16	0.05	0.10	0.05	0.05	0.25	0.16
55	1.00	0.65	0.27	0.23	0.15	0.15	0.18	0.18	0.48	0.29
60	0.68	0.50	0.45	0.34	0.20	0.23	0.22	0.22	0.85	0.41

## Summary of Member Valuation Data

### General Participants & Teachers

Valuation Date	Participating Employers	Active Participants	Annual Payroll (millions \$)	Annual Average Pay	% Increase In Average Pay
12/31/1994	1,150	214,280	6,341.6	29,595	2.5%
12/31/1995	1,155	216,434	6,596.6	30,479	3.0%
12/31/1996	1,189	219,265	6,832.3	31,160	2.2%
12/31/1997	1,200	222,888	7,128.0	31,980	2.6%
12/31/1998	1,221	227,017	7,456.8	32,847	2.7%
12/31/1999	1,239	229,657	7,704.2	33,547	2.1%
12/31/2000	1,260	234,076	8,335.4	35,610	6.2%
12/31/2001	1,287	238,944	8,746.5	36,605	2.8%
12/31/2002	1,324	240,990	9,007.5	37,377	2.1%
12/31/2003	1,344	239,696	9,272.8	38,686	3.5%

### Executive & Elected Participants

Valuation Date	Participating Employers	Active Participants	Annual Payroll (millions \$)	Annual Average Pay	% Increase In Average Pay
12/31/1994	257	1,450	63.1	43,517	5.0%
12/31/1995	257	1,475	66.6	45,153	3.8%
12/31/1996	262	1,459	67.1	45,990	1.9%
12/31/1997	264	1,455	71.1	48,866	6.3%
12/31/1998	264	1,450	73.5	50,690	3.7%
12/31/1999	264	1,468	77.2	52,589	3.7%
12/31/2000	267	1,486	82.6	55,585	5.7%
12/31/2001	270	1,486	84.8	57,060	2.7%
12/31/2002	279	1,476	86.9	58,865	3.2%
12/31/2003	284	1,468	85.6	58,336	(0.9%)

### Protective Participants Covered by Social Security

Valuation Date	Participating Employers	Active Participants	Annual Payroll (millions \$)	Annual Average Pay	% Increase In Average Pay
12/31/1994	417	12,825	436.1	34,004	3.3%
12/31/1995	415	13,434	466.8	34,748	2.2%
12/31/1996	427	13,820	494.9	35,810	3.1%
12/31/1997	435	14,232	535.5	37,626	5.1%
12/31/1998	441	14,810	570.3	38,508	2.3%
12/31/1999	444	16,483	648.6	39,350	2.2%
12/31/2000	452	16,970	717.2	42,263	7.4%
12/31/2001	460	17,981	771.6	42,912	1.5%
12/31/2002	475	18,325	803.9	43,871	2.2%
12/31/2003	485	18,660	856.3	45,891	4.6%

## Summary of Member Valuation Data

### Protective Participants Not Covered by Social Security

Valuation Date	Participating Employers	Active Participants	Annual Payroll (millions \$)	Annual Average Pay	% Increase In Average Pay
12/31/1994	61	2,612	106.1	40,620	3.2%
12/31/1995	59	2,630	111.7	42,471	4.6%
12/31/1996	56	2,625	115.7	44,076	3.8%
12/31/1997	55	2,654	120.9	45,554	3.4%
12/31/1998	55	2,658	126.9	47,743	4.8%
12/31/1999	54	2,691	130.6	48,532	1.7%
12/31/2000	55	2,685	135.4	50,428	3.9%
12/31/2001	55	2,715	142.1	52,339	3.8%
12/31/2002	55	2,709	147.9	54,603	4.3%
12/31/2003	54	2,714	153.8	56,673	3.8%

### All Participants

Valuation Date	Participating Employers	Active Participants	Annual Payroll (millions \$)	Annual Average Pay	% Increase In Average Pay
12/31/1994	1,182	231,167	6,946.9	30,051	2.5%
12/31/1995	1,202	233,973	7,241.7	30,951	3.0%
12/31/1996	1,218	237,169	7,510.0	31,665	2.3%
12/31/1997	1,230	241,229	7,855.5	32,564	2.8%
12/31/1998	1,252	245,935	8,227.5	33,454	2.7%
12/31/1999	1,266	250,299	8,560.6	34,201	2.2%
12/31/2000	1,289	255,217	9,270.6	36,324	6.2%
12/31/2001	1,316	261,126	9,745.0	37,319	2.7%
12/31/2002	1,355	263,500	10,046.2	38,126	2.2%
12/31/2003	1,377	262,538	10,368.5	39,493	3.6%

### Summary of Accrued and Unfunded Accrued Liabilities (in millions \$)

Valuation Year	Aggregate Accrued Liabilities	Valuation Assets	Assets as a % of Accrued Liabilities	Solvency Test		UAL as a % of Annual Active Member Payroll	Funded	
				Unfunded Accrued Liabilities	Annual Active Member Payroll		Employer's Contrib.	Total
1993	27,533.0	25,436.5	92.4%	2,096.5	6,884.9	30.7%		
1994	29,012.1	26,954.3	92.9%	2,057.8	7,135.6	28.8%		
1995	32,348.9	30,246.2	93.5%	2,102.7	7,454.3	28.2%		
1996	36,097.0	33,962.6	94.1%	2,134.4	7,721.6	27.6%		
1997	40,762.0	38,584.6	94.7%	2,177.4	8,084.6	24.9%		
1998	45,617.1	43,390.5	95.1%	2,226.6	8,481.1	24.3%		
1999	51,549.5	49,403.7	95.8%	2,145.8	8,826.0	24.3%		
2000	53,993.6	51,824.6	96.0%	2,169.0	27,533.0	100.0%	78.4%	92.4%
2001	59,134.7	58,024.3	98.1%	2,110.4	29,012.1	100.0%	79.6%	92.9%
2002	59,618.8	57,861.9	97.0%	1,756.9	32,348.9	100.0%	81.1%	93.5%
2003	63,211.7	62,685.3	99.2%	526.4	36,097.0	100.0%	82.6%	94.1%
1997	38,584.6	15,985.1	11,072.5	13,705.3	40,762.9	100.0%	84.1%	94.7%
1998	43,390.5	18,352.3	11,710.3	15,554.5	45,617.1	100.0%	85.7%	95.1%
1999	49,403.7	21,290.7	12,769.6	17,489.2	51,549.5	100.0%	87.7%	95.8%
2000	51,824.6	22,918.0	12,869.7	18,205.9	53,993.6	100.0%	88.1%	96.0%
2001	58,024.3	25,881.5	14,275.3	19,977.9	60,134.7	100.0%	89.4%	96.5%
2002	57,861.9	26,041.7	14,022.9	19,554.2	59,618.8	100.0%	91.0%	97.1%
2003	62,685.3	28,707.8	14,503.1	20,000.8	63,211.7	100.0%	97.4%	99.2%

## Wisconsin Retirement System Contribution Rates

### Notes to Contribution Rate Schedule

1. The employee rate is set by statute. Part or all of the required employee contribution may be paid by the employer on behalf of the employee.
2. The unfunded liability was recalculated in 1990 to reflect benefit improvements and is being amortized on a level percentage of salary basis over a period of 40 years beginning January 1, 1990, or on the effective date of the employer's participation, whichever is later. Prior service rates vary by employers and the percentage reported represents a weighted average.

#### General (Incl. Teachers)

	Current Cost	Prior Cost	Employer Total	Employee	BAC	Total
<b>1994</b>	4.8%	1.3%	6.1%	5.0%	1.2%	12.3%
<b>1995</b>	4.8%	1.3%	6.1%	5.0%	1.2%	12.3%
<b>1996</b>	5.1%	1.3%	6.4%	5.0%	1.5%	12.9%
<b>1997</b>	5.0%	1.3%	6.3%	5.0%	1.4%	12.7%
<b>1998</b>	4.8%	1.3%	6.1%	5.0%	1.2%	12.3%
<b>1999</b>	4.4%	1.4%	5.8%	5.0%	0.8%	11.6%
<b>2000</b>	4.1%	1.4%	5.5%	5.0%	0.5%	11.0%
<b>2001</b>	3.8%	1.3%	5.1%	5.0%	0.2%	10.3%
<b>2002</b>	3.8%	1.3%	5.1%	5.0%	0.2%	10.3%
<b>2003</b>	4.0%	1.2%	5.2%	5.0%	0.4%	10.6%

#### Executive & Elected

	Current Cost	Prior Cost	Employer Total	Employee	BAC	Total
<b>1994</b>	11.1%	0.9%	12.0%	5.5%	0.1%	17.6%
<b>1995</b>	11.1%	0.9%	12.0%	5.5%	0.1%	17.6%
<b>1996</b>	10.1%	1.0%	11.1%	4.6%	0.0%	15.7%
<b>1997</b>	10.2%	1.0%	11.2%	4.7%	0.0%	15.9%
<b>1998</b>	10.2%	1.0%	11.2%	4.7%	0.0%	15.9%
<b>1999</b>	9.8%	1.0%	10.8%	4.3%	0.0%	15.1%
<b>2000</b>	9.6%	1.0%	10.6%	4.1%	0.0%	14.7%
<b>2001</b>	9.4%	1.0%	10.4%	3.9%	0.0%	14.3%
<b>2002</b>	8.6%	1.0%	9.6%	3.1%	0.0%	12.7%
<b>2003</b>	8.1%	1.0%	9.1%	2.6%	0.0%	11.7%



## Wisconsin Retirement System Contribution Rates

	<u>Protective with Social Security</u>						Total
	Current Cost	Prior Cost	Duty Disability	Employer Total	Employee	BAC	
<b>1994</b>	9.7%	1.0%	3.0%	13.7%	6.0%	0.6%	20.3%
<b>1995</b>	9.6%	1.0%	3.4%	14.0%	6.0%	0.5%	20.5%
<b>1996</b>	9.2%	1.0%	3.3%	13.5%	6.0%	0.1%	19.6%
<b>1997</b>	8.9%	0.9%	3.3%	13.1%	5.8%	0.0%	18.9%
<b>1998</b>	8.5%	0.9%	3.7%	13.1%	5.4%	0.0%	18.5%
<b>1999</b>	8.0%	0.9%	3.9%	12.8%	4.9%	0.0%	17.7%
<b>2000</b>	7.2%	0.8%	3.9%	11.9%	4.1%	0.0%	16.0%
<b>2001</b>	6.9%	0.7%	3.9%	11.5%	3.8%	0.0%	15.3%
<b>2002</b>	7.1%	0.7%	3.8%	11.6%	4.0%	0.0%	15.6%
<b>2003</b>	7.1%	0.6%	3.9%	11.6%	4.0%	0.0%	15.6%

	<u>Protective without Social Security</u>						Total
	Current Cost	Prior Cost	Duty Disability	Employer Total	Employee	BAC	
<b>1994</b>	14.9%	1.4%	3.0%	19.3%	7.5%	0.0%	26.8%
<b>1995</b>	14.6%	1.4%	3.4%	19.4%	7.2%	0.0%	26.6%
<b>1996</b>	14.2%	1.5%	3.3%	19.0%	6.8%	0.0%	25.8%
<b>1997</b>	13.6%	1.5%	3.3%	18.4%	6.2%	0.0%	24.6%
<b>1998</b>	13.2%	1.4%	3.7%	18.3%	5.8%	0.0%	24.1%
<b>1999</b>	12.8%	1.5%	3.9%	18.2%	5.4%	0.0%	23.6%

Actuarial

### **Analysis of Actuarial Experience**

Gains and Losses in Accrued Liabilities during 2003

Resulting from Differences Between Assumed Experience and Actual Experience  
(in millions \$)

### Wisconsin Retirement System Changes in Number of Annuities

Year	Annuity Type	Beginning	Additions	Deletions	Ending
2003	Retirement	108,901	7,308	2,171	114,038
	Disability	6,158	177	63	6,272
	Beneficiary	1,230	68	26	1,272
	Total	<u>116,289</u>	<u>7,553</u>	<u>2,260</u>	<u>121,582</u>
2002	Retirement	104,910	6,915	2,924	108,901
	Disability	6,009	191	42	6,158
	Beneficiary	1,223	53	46	1,230
	Total	<u>112,142</u>	<u>7,159</u>	<u>3,012</u>	<u>116,289</u>
2001	Retirement	100,304	7,254	2,648	104,910
	Disability	5,898	302	191	6,009
	Beneficiary	1,223	53	53	1,223
	Total	<u>107,425</u>	<u>7,609</u>	<u>2,892</u>	<u>112,142</u>
2000	Retirement	95,747	7,358	2,801	100,304
	Disability	5,811	302	215	5,898
	Beneficiary	1,259	40	76	1,223
	Total	<u>102,817</u>	<u>7,700</u>	<u>3,092</u>	<u>107,425</u>
1999	Retirement	92,157	6,324	2,734	95,747
	Disability	5,673	343	205	5,811
	Beneficiary	1,282	46	69	1,259
	Total	<u>99,112</u>	<u>6,713</u>	<u>3,008</u>	<u>102,817</u>
1998	Retirement	88,230	6,324	2,397	92,157
	Disability	5,574	311	212	5,673
	Beneficiary	1,324	26	68	1,282
	Total	<u>95,128</u>	<u>6,661</u>	<u>2,677</u>	<u>99,112</u>
1997	Retirement	85,418	5,458	2,646	88,230
	Disability	5,423	338	187	5,574
	Beneficiary	1,357	27	60	1,324
	Total	<u>92,198</u>	<u>5,823</u>	<u>2,893</u>	<u>95,128</u>
1996	Retirement	82,333	5,566	2,481	85,418
	Disability	5,279	364	220	5,423
	Beneficiary	1,386	29	58	1,357
	Total	<u>88,998</u>	<u>5,959</u>	<u>2,759</u>	<u>92,198</u>
1995	Retirement	79,730	5,033	2,430	82,333
	Disability	5,066	371	158	5,279
	Beneficiary	1,418	33	65	1,386
	Total	<u>86,214</u>	<u>5,437</u>	<u>2,653</u>	<u>88,998</u>
1994	Retirement	77,469	4,575	2,314	79,730
	Disability	4,909	344	187	5,066
	Beneficiary	1,458	37	77	1,418
	Total	<u>83,836</u>	<u>4,956</u>	<u>2,578</u>	<u>86,214</u>