

**ACCUMULATED SICK LEAVE CONVERSION CREDIT PROGRAMS
PRESENTED TO THE WISCONSIN DEPARTMENT OF EMPLOYEE TRUST FUNDS
ANNUAL ACTUARIAL VALUATION
DECEMBER 31, 2012**

June 10, 2013

Employee Trust Funds Board
Wisconsin Retirement System
801 West Badger Road
Madison, Wisconsin 55713-2526

Ladies and Gentlemen:

The results of the **Annual Actuarial Valuation** of benefit liabilities and costs of the Accumulated Sick Leave Conversion Credit (ASLCC) Programs are presented in this report. This report should not be relied upon for any other purpose. The recommended contribution rates are shown below:

	University Hospital Authority	Health and Education Facility	Wiscraft	Other State Employers	Totals
Base Rate	1.2%	2.0%	1.9%	0.9%	0.9%
Supplemental Rate	0.8%	1.3%	1.3%	0.5%	0.5%
Total	2.0%	3.3%	3.2%	1.4%	1.4%

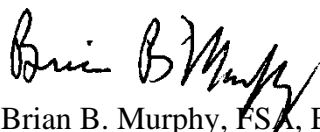
The date of the valuation was **December 31, 2012**.

The valuation was based upon data, furnished by the Department of Employee Trust Funds, concerning retired and non-retired participants and pertinent financial information.

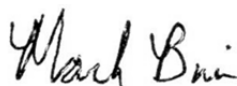
Future actuarial measurements may differ significantly from those presented in this report due to such factors as experience differing from that anticipated by actuarial assumptions, changes in plan provisions, actuarial assumptions/methods or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements.

The valuation was completed in accordance with standards of practice prescribed by the Actuarial Standards Board and in conformance with Chapter 40 of the Wisconsin Statutes. To the best of our knowledge, this report is complete and accurate, and the actuarial methods and assumptions produced results which are reasonable. The actuaries submitting this statement are Members of the American Academy of Actuaries (MAAA), and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. The signing actuaries are independent of the plan sponsor.

Respectfully submitted,



Brian B. Murphy, FSA, EA, MAAA



Mark Buis, FSA, EA, MAAA

BBM/MB:sc

COMBINED RESULTS AND DISCUSSION

**ASLCC PROGRAM
BASE PLUS SUPPLEMENTAL
COMPUTED TOTAL EMPLOYER CONTRIBUTION RATES**

The financial objectives of the ASLCC Program are to establish and receive contributions to support benefits that will remain approximately level from year to year. Combined program valuation results for the last 10 years are presented below.

Valuation Date December 31	Base	Supplemental	Total	UAAL* Amortization Years
2003 [^] &	0.9%	0.5%	1.4%	22
2004	0.9%	0.4%	1.3%	21
2005	0.8%	0.4%	1.2%	20
2006 [^]	0.7%	0.3%	1.0%	19
2007	0.6%	0.2%	0.8%	18
2008	0.6%	0.2%	0.8%	17
2009 [^]	0.8%	0.4%	1.2%	16
2010 [^]	0.8%	0.4%	1.2%	15
2011	0.9%	0.4%	1.3%	14
2012 [^]	0.9%	0.5%	1.4%	13

* *Unfunded actuarial accrued liabilities.*
[^] *Assumption change.*
& *Method change.*

COMMENTS

- Based on the policy established at the June 2002 ETF Board meeting, the amortization period for unfunded actuarial accrued liabilities was closed. Therefore, the remaining period will decline one year at a time until the UAAL is fully amortized.
- The State of Wisconsin issued Pension Obligation Bonds in 2003 that paid off the majority of unfunded liabilities of the ASLCC Program.
- In computing the rates in this report, we used the frozen initial liability (FIL) method. This method was used because the Pension Obligation Bond paid off unfunded liabilities for some, but not all employers, requiring separate contribution rates for some of the employers. This method is described further on page 13.
- In total, during 2012, investment return was above the assumed level of 7.2% on a market value basis. Under the asset valuation method, gains and losses are phased in over a five year period, resulting in a 2.15% return on an actuarial value of assets basis. Overall contribution rates for the December 31, 2012 valuation increased by 0.1% from the prior year. Increases due to unfavorable investment performance were partially offset by favorable experience on premiums.
- The Market Value of Assets exceeds the Actuarial Value of Assets by approximately 3% as of the valuation date. The statutory asset valuation method will recognize all of the differences between actuarial value and market value over four future years. The result will be downward pressure on contribution rates.

**ASLCC PROGRAM
SUMMARY OF PARTICIPANT DATA
DECEMBER 31, 2012**

Active Participants

	State Employees (Non-University)	University	University Hospital	Total
Number	31,283	28,705	6,858	66,846
Annual Payroll	\$1,616,362,317	\$1,957,107,692	\$417,923,625	\$3,991,393,634
Accrued Unused Sick Days	2,687,139 days	2,703,005 days	306,905 days	5,697,049 days
Averages: Age	45.6 years	47.0 years	42.0 years	45.8 years
Service	12.6 years	11.4 years	9.2 years	11.8 years
Sick Leave Days	85.9 days	94.2 days	44.8 days	85.2 days

Retirees & Beneficiaries

	Rate Category		
	Without Medicare	With Medicare	Total
Number*	5,439	9,705	15,144
Monthly Premiums			
Total	\$5,862,934	\$5,560,866	\$11,423,800
Average	1,077.94	572.99	
Prior Year Average	1,099.65	578.02	

* Number count does not include 5,319 escrowed annuitants.

**ASLCC PROGRAM
SUMMARY OF ASSETS
DECEMBER 31, 2012**

	<u>Base Program</u>	<u>Supplemental Program</u>	<u>Total</u>
Beginning Balance	\$1,373,111,626	\$771,489,880	\$2,144,601,506
Adjustment	(1,365,646)	3,387,402	2,021,756
Adjusted Beginning Balance	<u>\$1,371,745,980</u>	<u>\$774,877,282</u>	<u>\$2,146,623,262</u>
Revenues			
Contributions	\$ 31,866,827	\$ 15,923,529	\$ 47,790,356
Investment Income	29,465,509	16,884,217	46,349,726
Total Revenues	<u>\$ 61,332,336</u>	<u>\$ 32,807,746</u>	<u>\$ 94,140,082</u>
Expenses			
Insurance Premiums	\$ 97,380,093	\$ 33,248,151	\$ 130,628,244
Administration	388,319	115,995	504,314
Total Expenses	<u>\$ 97,768,412</u>	<u>\$ 33,364,146</u>	<u>\$ 131,132,558</u>
Ending Balance - December 31, 2012	<u><u>\$1,335,309,904</u></u>	<u><u>\$774,320,882</u></u>	<u><u>\$2,109,630,786</u></u>
Internal Rate of Return	2.2%	2.2%	2.2%

ASLCC PROGRAM
UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)
DECEMBER 31, 2012

	University Hospital Authority	Health and Education Facility	Wiscraft	Other State Employers	Totals
Balance December 31, 2011	\$ 15,876,395	\$ 62,960	\$ 210,803	\$ 0	\$ 16,212,339
Balance December 31, 2012	\$ 15,611,032	\$ 61,810	\$ 197,632	\$ 0	\$ 15,870,474
Base UAAL	\$ 8,385,762	\$ 35,277	\$ 107,726	\$ 0	\$ 8,528,765
Supplemental UAAL	\$ 7,225,270	\$ 26,533	\$ 89,906	\$ 0	\$ 7,341,709
Annual Payroll	\$248,592,072	\$318,326	\$1,103,254	\$3,741,379,983	\$3,991,393,634
Base Contribution Rate					
Normal Cost	0.9%	0.9%	0.9%	0.9%	0.9%
UAAL	<u>0.3%</u>	<u>1.1%</u>	<u>1.0%</u>	<u>0.0%</u>	<u>0.0%</u>
Total	1.2%	2.0%	1.9%	0.9%	0.9%
Supplemental Contribution Rate					
Normal Cost	0.5%	0.5%	0.5%	0.5%	0.5%
UAAL	<u>0.3%</u>	<u>0.8%</u>	<u>0.8%</u>	<u>0.0%</u>	<u>0.0%</u>
Total	0.8%	1.3%	1.3%	0.5%	0.5%
Total Contribution Rate	2.0%	3.3%	3.2%	1.4%	1.4%

BASE PLAN RESULTS

SECTION 40.05(4)(B)
ACCUMULATED SICK LEAVE CONVERSION CREDIT PROGRAM
SUMMARY OF ACCUMULATION AND PAYMENT CONDITIONS

Accumulation. The average annual sick leave balance of Wisconsin State employees (other than University employees) in 2012 was 85.9 days. Based upon an average of 12.6 years of service, this would correspond to an average annual addition of 6.8 days per year to sick leave accounts for past years. For University and University Hospital employees, the average balance was 84.6 days. Based upon an average of 11.0 years of service, this would correspond to an average annual addition of 7.7 days per year to the sick leave accounts for past years. For purposes of estimating sick leave balances at retirement, each individual was assumed to continue using sick leave at the same rate as in the past but not less than 25% nor more than 75% of the person's annual accrual rate (usually 16.25 days).

Eligibility for Payment of Accrued Sick Leave. Termination of employment with 20 or more years of service or eligibility for an immediate annuity from the Wisconsin Retirement System. State elected officials and certain state administrative officials terminating before their minimum service retirement age retain eligibility for benefits at their minimum service retirement age providing they do not elect a WRS separation benefit.

Amount of Payment for Unused Sick Leave. A conversion credit is computed at the time of retirement or death by multiplying the number of days of unused sick leave by the highest basic pay rate. The conversion credit is then used to cover the cost of health insurance premiums for the employee and eligible dependents. Unused portions are carried forward from year to year without interest and when total health insurance premiums paid on behalf of the retired employee equal or exceed the conversion credit, no further payments are made under the ASLCC program. Payments from the sick leave account may be escrowed indefinitely after retirement for participants who provide evidence of comparable health insurance coverage from another source.

**40.05(4)(B) - BASE ASLCC PROGRAM
DEVELOPMENT OF NORMAL COST**

<u>Actuarial Present Value of</u>	<u>December 31</u>	
	<u>2012</u>	<u>2011</u>
(1) Future Amount to be paid on behalf of present retirants and beneficiaries	\$ 382,077,309	\$ 389,262,508
(2) Future Amount to be paid on behalf of future retirees and beneficiaries	<u>1,293,019,202</u>	<u>1,308,035,281</u>
(3) Total Actuarial Present Value	\$ 1,675,096,511	\$ 1,697,297,789
(4) Assets	1,335,309,904	1,373,111,626
(5) Unfunded Actuarial Accrued Liabilities (UAAL)	<u>\$ 8,528,765</u>	<u>\$ 8,799,886</u>
(6) Present Value of Future Normal Cost: (3) - (4) - (5)	\$ 331,257,842	\$ 315,386,276
(7) Present Value of Future Salary	\$37,561,721,571	\$36,313,528,804
(8) Normal Cost: (6) / (7) (not to exceed last year's rate + 0.2%)	0.9%	0.9%

**40.05(4)(B) - BASE ASLCC PROGRAM
COMPUTED EMPLOYER CONTRIBUTIONS
DECEMBER 31, 2012**

Contributions for	Computed Employer Contribution Rate as a % of Covered Payroll
Normal Cost	0.9%
UAAL*	0.0%
Total	0.9%

* *Unfunded actuarial accrued liabilities of \$8.5 million were amortized over 13 years. Although this results in a 0.0% of pay contribution due to rounding, unfunded liabilities are allocated to individual employers as shown on page 5 and employers having an unfunded liability will make a separate contribution towards this unfunded liability.*

Discussion

The financial objective of the ASLCC program is to establish and receive contributions to support benefits that will remain approximately level from year to year. In 2003, the State of Wisconsin issued Pension Obligation Bonds which paid off the majority of unfunded liabilities of the ASLCC Program. Since unfunded liabilities remained for certain employers, the funding method was changed to the Frozen Initial Liability Actuarial Cost Method. Under this method, gains and losses arising from the difference between actual and assumed experience are reflected in the determination of the normal cost. Separate amortization schedules are established for employers with unfunded liabilities (see page 5), resulting in separate contribution rates for each participating employer.

**40.05(4)(B) - BASE ASLCC PROGRAM
COMPARATIVE STATEMENT OF RESULTS**

Valuation Date	No. Active	Covered Payroll \$ Millions	Average			\$ Millions		Average Computed Employer Rate
			Age	Service	Accr. Sick Days	Assets	UAAL	
December 31								
1993	58,299	\$2,021.8	43.3	11.6	76.0	\$ 156.4	\$ 364.4	2.1%
1994 [^]	58,971	2,136.9	43.6	11.8	77.0	186.7	380.4	1.9%
1995	57,941	2,151.9	44.2	12.5	80.3	236.8	370.1	1.9%
1996	57,920	2,184.3	44.2	12.3	79.4	283.2	354.4	1.8%
1997 [^] #	58,872	2,260.8	44.3	12.3	79.5	337.2	251.8	1.8%
1998	60,502	2,415.5	44.4	12.2	79.9	392.9	241.9	1.9%
1999	62,158	2,521.6	44.6	12.2	81.0	457.0	260.0	1.8%
2000 [^]	63,008	2,753.3	44.6	12.0	80.6	515.6	214.2	1.7%
2001	64,510	2,980.6	44.5	11.8	80.9	611.7	218.7	1.7%
2002	66,442	3,096.7	44.8	11.8	80.9	619.0	262.6	1.8%
2003 [^] &	68,366	3,349.0	45.0	11.8	80.9	1,085.1	10.9	0.9%
2004	68,269	3,400.0	45.4	12.0	83.1	1,154.0	9.5	0.9%
2005	67,460	3,410.0	45.6	12.2	84.3	1,196.0	9.3	0.8%
2006 [^]	67,892	3,592.5	45.8	12.2	85.5	1,272.7	9.2	0.7%
2007	68,789	3,726.4	45.9	12.2	87.1	1,394.4	7.2	0.6%
2008	69,720	3,878.0	45.9	12.1	85.1	1,402.8	8.9	0.6%
2009 [^]	69,964	3,950.5	46.1	12.3	86.5	1,409.7	9.1	0.8%
2010 [^]	69,920	3,962.1	46.3	12.3	86.9	1,416.1	9.0	0.8%
2011	66,533	3,905.5	45.9	11.9	86.2	1,373.1	8.8	0.9%
2012 [^]	66,846	3,991.4	45.8	11.8	85.2	1,335.3	8.5	0.9%

[^] Assumption change.

Benefit change.

& Method change.

SUPPLEMENTAL PLAN RESULTS

**ACCUMULATED SICK LEAVE CONVERSION CREDIT PROGRAM
SUPPLEMENTAL PLAN
DECEMBER 31, 2012**

This supplemental plan provides matching credits for participants retiring with 15 or more years of state service as follows:

- **Protective:** Match up to 78 hours (9.75 days) per full year of service through 24 years, plus 104 hours (13 days) per full year of service over 24 years.
- **Others:** Match up to 52 hours (6.5 days) per full year of service through 24 years, plus up to 104 hours (13 days) per full year of service over 24 years.

The results below are for the supplemental program only. (The results on page 7 are for the ASLCC base program only.) The supplemental plan accrued liabilities are offset by supplemental plan assets which are accounted for separately by DETF.

Contributions for	Computed Employer Contribution Rate as a % of Covered Payroll
Normal Cost	0.5%
UAAL*	0.0%
Total	0.5%

* *Unfunded actuarial accrued liabilities of \$7.3 million were amortized over 13 years. Although this results in a 0.0% of pay contribution due to rounding, unfunded liabilities are allocated to individual employers as shown on page 5 and employers having an unfunded liability will make a separate contribution towards this unfunded liability.*

The contribution rate shown above was developed based upon the active participant data as shown on page 3. This is the same data that was used in the development of the base plan rates.

**40.05(4)(B) – SUPPLEMENTAL ASLCC PROGRAM
DEVELOPMENT OF NORMAL COST**

<u>Actuarial Present Value of</u>	<u>December 31</u>	
	<u>2012</u>	<u>2011</u>
(1) Future Amount to be paid on behalf of present retirants and beneficiaries	\$ 362,031,667	\$ 346,535,627
(2) Future Amount to be paid on behalf of future retirees and beneficiaries	<u>591,046,768</u>	<u>592,576,784</u>
(3) Total Actuarial Present Value	\$ 953,078,435	\$ 939,112,411
(4) Assets	774,320,882	771,489,880
(5) Unfunded Actuarial Accrued Liabilities (UAAL)	<u>7,341,709</u>	<u>7,350,272</u>
(6) Present Value of Future Normal Cost: (3) - (4) - (5)	\$ 171,415,844	\$ 160,272,258
(7) Present Value of Future Salary	\$ 37,561,721,571	\$ 36,313,528,804
(8) Normal Cost: (6) / (7)	0.5%	0.4%

**ASLCC SUPPLEMENTAL PLAN
COMPARATIVE STATEMENT OF RESULTS**

Valuation Date	No. Active	Covered Payroll \$ Millions	Average			\$ Millions		Average Computed Employer Rate
			Age	Service	Accr. Sick Days	Assets	UAAL	
2002 [^]	66,442	\$3,096.7	44.8	11.8	80.9	\$ 154.2	\$273.9	1.2%
2003 [^] &	68,366	3,349.0	45.0	11.8	80.9	519.9	9.1	0.5%
2004	68,269	3,400.0	45.4	12.0	83.1	570.6	7.9	0.4%
2005	67,460	3,410.0	45.6	12.2	84.3	609.7	7.8	0.4%
2006 [^]	67,892	3,592.5	45.8	12.2	85.5	670.5	7.5	0.3%
2007	68,789	3,726.4	45.9	12.2	87.1	744.4	6.5	0.2%
2008	69,720	3,878.0	45.9	12.1	85.1	757.0	7.2	0.2%
2009 [^]	69,964	3,950.5	46.1	12.3	86.5	769.7	7.2	0.4%
2010 [^]	69,920	3,962.1	46.3	12.3	86.9	782.3	7.2	0.4%
2011	66,533	3,905.5	45.9	11.9	86.2	771.5	7.4	0.4%
2012 [^]	66,846	3,991.4	45.8	11.8	85.2	774.3	7.3	0.5%

[^] Assumption change.

& Method change.

For the 2000 and subsequent valuations, retiree liabilities were separately calculated for the supplemental plan.

ACTUARIAL METHODS AND ASSUMPTIONS

ACTUARIAL VALUATION METHOD

The actuarial funding method prescribed in the statute for WRS is the **Frozen Initial Liability Actuarial Cost Method**. This funding method is also used for the ASLCC valuation. Under this method, the amount of remaining unfunded actuarial accrued liabilities at any valuation date is 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.

Actuarial gains or losses arising from the difference between actual and assumed experience are reflected in the determination of the normal cost. In this manner, experience gains or losses in any year are amortized (spread) over the average future working lifetime of the active participant group.

ASSET VALUATION METHOD

The asset valuation method used for ASLCC valuations is referred to as the “Market Recognition Account” or MRA. The MRA recognizes assumed returns fully each year. Differences between actual and assumed returns are phased in over a closed 5-year period. The objective is to give recognition to long-term changes in asset values while minimizing the effect of short-term fluctuations in the capital markets. In accordance with its smoothing objective, the MRA will tend to exceed the market value when the markets are doing poorly, and will fall short of the market value when markets are doing well.

ACTUARIAL METHODS AND ASSUMPTIONS USED IN VALUATIONS

The principal areas of risk assumption are:

- long-term *rates of investment return* likely to be generated by system assets
- *rates of mortality* among participants, retirees and beneficiaries
- *rates of withdrawal* of active participants
- *rates of disability* among participants
- *patterns of salary increases* to be experienced by participants
- the age and service *distribution of actual retirements*
- future *rates of sick leave usage* by plan participants

In an actuarial valuation, the actuary projects the monetary effect of each risk assumption for each distinct experience group, for the next year and for each 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 complete 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 liabilities calculated in this report reflect a 3% adjustment for future contingencies. Examples of contingencies are:

- Actual data for some employers (including Health and Education Facility, Housing and Economic Development and Wiscraft) was not available at the time of this report. Based on prior calculations, they represent approximately 0.2% of total liabilities.
- Higher than the anticipated rate of increase in health care costs.

**SUMMARY OF ASSUMPTIONS
USED FOR ANNUAL ACTUARIAL VALUATIONS
ASSUMPTIONS ADOPTED BY ETF BOARD AFTER
CONSULTING WITH ACTUARY**

Economic Assumptions

The long-term rates of investment return used in making the valuation was 7.2% a year, compounded yearly.

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

% Merit and Longevity Increase Next Year						
Service	General	University Teachers	Public School Teachers	Protective		Exec. & Elec.
				With S.S.	W/O S.S.	
1	3.5 %	3.2 %	5.8 %	4.8 %	5.5 %	2.0 %
2	3.5 %	3.2 %	5.8 %	4.8 %	5.5 %	2.0 %
3	3.1 %	3.1 %	5.4 %	4.1 %	4.7 %	2.0 %
4	2.8 %	3.0 %	5.1 %	3.5 %	3.8 %	1.9 %
5	2.5 %	2.9 %	4.7 %	2.8 %	3.0 %	1.9 %
10	1.5 %	2.4 %	3.2 %	1.1 %	0.9 %	1.6 %
15	1.1 %	1.7 %	1.8 %	0.8 %	0.5 %	1.2 %
20	0.9 %	1.1 %	0.8 %	0.7 %	0.4 %	0.7 %
25	0.6 %	0.8 %	0.4 %	0.6 %	0.3 %	0.4 %
30	0.4 %	0.6 %	0.2 %	0.5 %	0.2 %	0.3 %

If the number of active participants remains constant, then the total active participant payroll will increase 3.2% a year, the base portion of the individual salary increase assumptions. This increasing payroll was recognized in amortizing unfunded actuarial accrued liabilities. Premium payments from the ASLCC Program were averaged over 3 years and also assumed to increase 3.2% a year.

Separate assumptions regarding secular trend of health care inflation and aging assumptions were not used. Because of the structure of the ASLCC program, use of these assumptions would not significantly affect results.

DECREMENT PROBABILITIES

The **mortality table** used to measure mortality for retired participants was the Wisconsin 2012 Mortality Table as adopted by the Board in connection with the 2009-2011 Experience Study. The rates in this table were based on actual WRS experience projected to 2017 with scale BB to allow for future improvements (margin) in mortality. Sample life expectancy values from this table are shown below. 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 Expectancy Wisconsin 2012 Mortality Table

Sample Attained Ages	Future Life Expectancy (years)	
	Males	Females
40	42.9	46.1
45	38.1	41.3
50	33.3	36.5
55	28.7	31.8
60	24.4	27.2
65	20.1	22.7
70	16.1	18.4
75	12.4	14.3
80	9.0	10.7
85	6.3	7.6

The values shown above are for non-disabled participants.

ACTIVE PARTICIPANT MORTALITY RATES

Sample Attained Ages	Mortality Rates	
	Males	Females
20	0.000155	0.000089
25	0.000184	0.000097
30	0.000229	0.000129
35	0.000398	0.000230
40	0.000540	0.000329
45	0.000717	0.000519
50	0.000966	0.000765
55	0.002228	0.001345
60	0.003147	0.001935
65	0.004814	0.002974
70	0.007979	0.005057
75	0.013576	0.009155
80	0.024949	0.017103

This assumption is used to measure the probability of participants dying while in service.

RATES OF RETIREMENT FOR THOSE ELIGIBLE TO RETIRE

Normal Retirement Pattern

Age	General		Public School		University		Protective*		Exec. & Elected
	Male	Female	Male	Female	Male	Female	With S.S.	W/O S.S.	
50							6%	4%	
51							7%	4%	
52							8%	5%	
53							23%	17%	
54							18%	25%	
55							17%	21%	
56							16%	27%	
57	20%	17%	40%	27%	13%	14%	16%	30%	15%
58	20%	17%	35%	27%	13%	14%	16%	30%	15%
59	20%	17%	25%	27%	13%	13%	16%	30%	15%
60	20%	20%	28%	27%	13%	13%	18%	26%	10%
61	20%	20%	25%	27%	13%	19%	18%	15%	13%
62	27%	27%	36%	34%	15%	19%	22%	20%	13%
63	32%	28%	32%	27%	15%	19%	29%	40%	12%
64	24%	25%	24%	23%	15%	18%	16%	40%	12%
65	24%	25%	24%	28%	15%	22%	30%	40%	12%
66	30%	29%	25%	30%	20%	23%	20%	40%	20%
67	24%	20%	24%	28%	18%	17%	15%	40%	17%
68	17%	18%	24%	26%	18%	17%	25%	40%	15%
69	17%	18%	24%	20%	18%	17%	20%	40%	15%
70	17%	18%	20%	20%	20%	20%	100%	100%	13%
71	17%	18%	20%	20%	20%	20%	100%	100%	13%
72	17%	15%	20%	20%	15%	20%	100%	100%	25%
73	17%	15%	20%	20%	15%	20%	100%	100%	10%
74	17%	15%	20%	20%	15%	20%	100%	100%	10%
75	100%	100%	100%	100%	100%	100%	100%	100%	100%

* Includes early retirements.

Early Retirement Pattern

Age	% Retiring Next Year						
	General		Public School		University		Exec. & Elected
	Male	Female	Male	Female	Male	Female	
55	8.0%	6.1%	12.0%	11.0%	4.8%	5.5%	4.5%
56	8.0%	6.4%	12.0%	11.0%	3.0%	5.5%	4.5%
57	4.3%	4.2%	12.0%	11.0%	2.0%	4.0%	4.5%
58	5.3%	5.5%	12.0%	11.0%	2.5%	4.0%	4.5%
59	5.5%	5.3%	12.0%	11.0%	4.0%	6.5%	4.5%
60	7.5%	8.1%	12.0%	15.0%	4.0%	6.5%	4.5%
61	8.0%	7.0%	12.0%	15.0%	7.5%	7.5%	4.5%
62	14.0%	15.0%	20.0%	20.0%	7.0%	10.0%	
63	16.0%	15.0%	20.0%	20.0%	7.5%	10.0%	
64	17.0%	15.0%	20.0%	20.0%	8.0%	13.0%	

The assumed rates of separation from employment prior to service retirement due to disability and other causes are shown below for sample ages. For other terminations it was assumed that a percentage depending on age of participants terminating after age 35 with 5 or more years service will leave their contributions on deposit and be paid a benefit at normal retirement age and that the remaining participants would take a separation benefit. The percentage taking a separation benefit is 25% at age 35, grading downward to 0% at retirement eligibility. All participants terminating prior to normal retirement age with less than 5 years of service were assumed to take a separation benefit.

**Assumed Termination Rates
by Attained Age and Years of Service**

Age	Service	% of Active Participants Terminating								
		Protective		Public Schools		University		Exec. & Elected	Other	
		With Soc. Sec.	Without Soc. Sec.	Males	Females	Males	Females		Males	Females
	0	15.0%	4.0%	17.7%	15.0%	18.3%	22.0%	20.0%	17.5%	19.5%
	1	7.0%	3.5%	11.4%	10.5%	15.0%	15.0%	14.0%	13.0%	13.5%
	2	4.3%	2.1%	7.3%	7.1%	11.3%	12.5%	14.0%	8.5%	10.0%
	3	3.8%	1.3%	5.2%	5.5%	9.6%	10.0%	10.0%	6.8%	8.0%
	4	3.4%	1.2%	3.9%	4.6%	8.5%	9.5%	10.0%	6.0%	7.4%
	5	2.6%	1.1%	3.0%	4.0%	7.5%	8.0%	9.0%	4.5%	6.0%
	6	2.5%	1.0%	2.8%	3.5%	7.0%	7.0%	8.5%	4.0%	5.0%
	7	2.3%	0.9%	2.5%	3.0%	5.5%	6.0%	8.0%	3.5%	4.5%
	8	2.0%	0.8%	2.0%	2.5%	4.3%	5.0%	7.5%	3.0%	4.0%
	9	1.7%	0.7%	1.8%	2.3%	3.2%	4.0%	7.0%	2.5%	3.8%
25	10 & Over	1.7%	0.7%	1.8%	2.2%	3.2%	5.0%	6.0%	2.5%	3.8%
30		1.6%	0.7%	1.4%	1.9%	3.2%	4.5%	5.1%	2.5%	3.3%
35		1.4%	0.7%	1.2%	1.4%	3.1%	4.0%	4.2%	2.1%	2.8%
40		1.2%	0.6%	1.1%	1.1%	2.7%	3.4%	3.7%	1.6%	2.2%
45		1.1%	0.6%	1.0%	0.9%	2.1%	2.6%	3.3%	1.3%	1.8%
50		1.0%	0.5%	1.0%	0.9%	1.6%	1.8%	3.1%	1.1%	1.6%
55		1.0%	0.5%	1.0%	0.9%	1.4%	1.5%	3.0%	1.1%	1.5%
60		1.0%	0.5%	1.0%	0.9%	1.4%	1.5%	3.0%	1.1%	1.5%

Disability Rates

Age	% of Active Participants Becoming Disabled									
	Protective		Public Schools		University		Exec. & Elected		Other	
	With SS	W/O SS	Males	Females	Males	Females	Males	Females	Males	Females
20	0.01%	0.04%	0.01%	0.01%	0.01%	0.01%	0.00%	0.00%	0.01%	0.01%
25	0.01%	0.04%	0.01%	0.01%	0.01%	0.01%	0.00%	0.00%	0.01%	0.01%
30	0.01%	0.04%	0.01%	0.01%	0.01%	0.01%	0.00%	0.00%	0.01%	0.03%
35	0.02%	0.04%	0.01%	0.01%	0.01%	0.03%	0.01%	0.01%	0.01%	0.04%
40	0.03%	0.07%	0.02%	0.02%	0.01%	0.04%	0.01%	0.01%	0.04%	0.05%
45	0.05%	0.13%	0.04%	0.06%	0.02%	0.04%	0.01%	0.01%	0.07%	0.07%
50	0.08%	0.74%	0.11%	0.12%	0.04%	0.07%	0.02%	0.02%	0.15%	0.11%
55	1.21%	0.54%	0.21%	0.17%	0.11%	0.10%	0.09%	0.09%	0.29%	0.20%
60	2.04%	0.16%	0.34%	0.25%	0.14%	0.15%	0.11%	0.11%	0.51%	0.29%