

**WISCONSIN RETIREMENT SYSTEM**

**GAIN/LOSS ANALYSIS OF EXPERIENCE AMONG ACTIVE MEMBERS  
DURING CALENDAR YEAR 2011**

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November 20, 2012

The Employee Trust Funds Board  
Wisconsin Retirement System  
801 West Badger Road  
Madison, Wisconsin 53713

Dear Board Members:

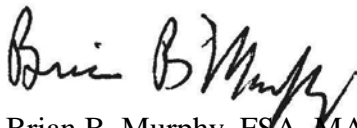
The results of the December 31, 2011 Gain/Loss Analysis Among Active Members of the Wisconsin Retirement System are presented in this report. The purpose of the analysis was to measure the economic and demographic experience for the 2011 calendar year that affected the 2013 contribution rate change (as described on page 6). This report should not be relied upon for any other purpose. This report may be distributed to parties other than the System only in its entirety and only with the permission of the Board.

The analysis was based upon information, furnished by your Secretary, concerning Retirement System benefits, financial transactions and membership data. Data was checked for internal and year to year consistency, but was not otherwise audited, by us. As a result, we are unable to assume responsibility for the accuracy or completeness of the data provided.

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.

To the best of our knowledge, this report is complete and accurate and the valuation was conducted in accordance with standards of practice prescribed by the Actuarial Standards Board and in compliance with the applicable state statutes. The undersigned are independent of the plan sponsor and are members of the American Academy of Actuaries (MAAA) who meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. It is our opinion that the actuarial assumptions used for the valuation produce results which are reasonable.

Respectfully submitted,



Brian B. Murphy, FSA, MAAA



Mark Buis, FSA, MAAA

BBM/MB:sc

# ACTIVE MEMBER GAIN/LOSS ANALYSIS

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## Introduction

*Purpose of Gain/Loss Analysis.* Regular actuarial valuations provide information about the composite change in computed contribution rates and total liabilities -- whether or not the rates and related liabilities are increasing or decreasing, and by how much. However, valuations do not show the portion of the change attributable to each risk area within the Retirement System financial mechanism: the rate of recognized investment income on plan assets; the rates of withdrawal of active participants who leave covered employment; the rates of mortality; the rates of disability; the rates of salary increases; and the assumed ages at actual retirement. In an actuarial valuation, assumptions are made as to what these rates will be for the next year and for decades in the future.

*The objective of a gain and loss analysis is to determine the portion of the change that is attributable to each risk area.*

The fact that actual experience differs from assumed experience should be expected. The future cannot be predicted with complete precision. Further, year-to-year statistical fluctuations occur, even in very large groups. This year's report reflects just a single year's experience. Changes in the valuation assumed experience for a risk area should be made only when the differences between assumed and actual experience have been observed to be sizable and persistent. One year's gain and loss analysis may or may not be indicative of *long-term trends, which are the basis of actuarial assumptions*. However, a persistent series of gains and losses can indicate a need for an assumption change or a method change, even if on a demographic basis, the assumptions appear to model reality well. In the Wisconsin Retirement System, longer term trends are reviewed in connection with the regular 3-year investigation of experience (the most recent 3-year investigation covered the period January 1, 2006 to December 31, 2008). It is the results of the 3-year investigation that lead to recommendations for changes in the actuarial assumptions.

## Overall Experience

Overall experience resulted in a net actuarial loss of \$1.5 billion for the 2011 calendar year. The loss was primarily attributable to continued recognition of investment losses from 2008 and a new loss in 2011. When combined with changes in cost due to benefit changes, the net result was an increase in the overall 2013 contribution rate of 1.5% of payroll.

## POPULATION DEVELOPMENT DURING CALENDAR YEAR 2011

	General	Executive & Elected	Protective		Total	Expected
			With S.S.	Without S.S.		
<b>Beginning Census</b>	239,959	1,418	20,019	2,754	264,150	
(-) Normal Retirement	6,021	82	681	82	6,866	4,632
(-) Early Retirement	5,917	22	94	7	6,040	4,465
(-) Death	282	6	18	0	306	293
(-) Disability Retirement						
-Total Disabilities approved	179	0	24	4	207	302
-Less Pending at Beginning of Year	42	0	11	0	53	
-Net new from active status	137	0	13	4	154	
(-) Other Separations	11,872	81	492	29	12,474	10,698
(-) Transfers Out	916	48	111	3	1,078	
(+) Transfers In	862	74	128	14	1,078	
(+) New Entrants	16,842	140	872	68	17,922	
<b>Ending Census</b>	232,518	1,393	19,610	2,711	256,232	

This schedule reconciles the active member populations reported in connection with the 2010 and 2011 valuations on an actual and expected basis. Assumptions related to population development are a primary focus of the gain/loss analysis. They generally tend to be more stable than economic assumptions, and therefore, measurements have more meaning. Please note also that the table above represents changes in actual and expected counts of members. Beginning with the 2009 valuations, some of the actuarial assumptions (retirement, turnover, etc.) are based on liability weighted rates. Therefore, comparing actual to expected member counts alone may not form the basis for our conclusions.

## COMMENTS

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### **Population Results (refer to schedules on Pages 4 and 9)**

**Normal Retirements** were greater than expected in all categories. This resulted in a large loss for the year. It is expected that this was a one-time occurrence due to benefit changes that were implemented and retirements going forward would return to more normal levels.

**Early Retirements** were also greater than expected in most groups, overall producing a loss.

**Deaths** among active participants was slightly higher than expected. The net result for the past year was a small gain.

**Disabilities** were less than expected and produced a gain. This means that the reserves needed for the disability benefit were slightly smaller than the reserves that had been held for retirement benefits.

**Other Separations** varied by group, gender, and service. More separations than assumed would normally produce a gain. The loss was generated by a lower than expected terminations among the portion of the population with higher liabilities.

**In total**, the population risk areas (retirement, death, disability, and other separations) produced an actuarial loss in 2011.

### **Economic Results (refer to schedules on Pages 9 and 12)**

**Investment Return** activity produced a loss for all groups. However, the recognized investment loss of \$2.2 billion was partially absorbed by a \$711 million loss in the combined value of variable excess benefits and money purchase benefits, resulting in a net liability loss of about \$1.5 billion.

**Pay Increases** were less than expected in most groups, producing a gain.

## COMMENTS

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### Other Analysis (refer to schedule on Page 10)

The schedule on page 10 analyzes gains or losses due to sources other than the demographic and economic areas. The **Reserve difference** produced a loss of about \$87 million. This is primarily attributable to adjustments related to estimated annuities for which final computations have now been made. The **Re-established liability** represents the liability for new or rehired active members who were not active in the prior year. Typically, it is expected that a new hire will have very little liability. However, often new members appear with more than one year of service or with liability greater than contributions made on their behalf. Although this amount is difficult to determine accurately due to the timing of contribution amounts, we estimate the Re-established liability loss at about \$58 million. This amount was somewhat higher than prior years and is likely attributable to the larger than normal turnover of membership in 2011.

### Contribution Rate Change

In total, the plan experienced a net loss of \$1.5 billion. Losses were primarily attributable to unfavorable investment return. As a result, the total normal cost contribution rate increased for all valuation groups. The change in benefit provisions also increases the overall total contribution rate. The impact of these items on contribution rates are shown below.

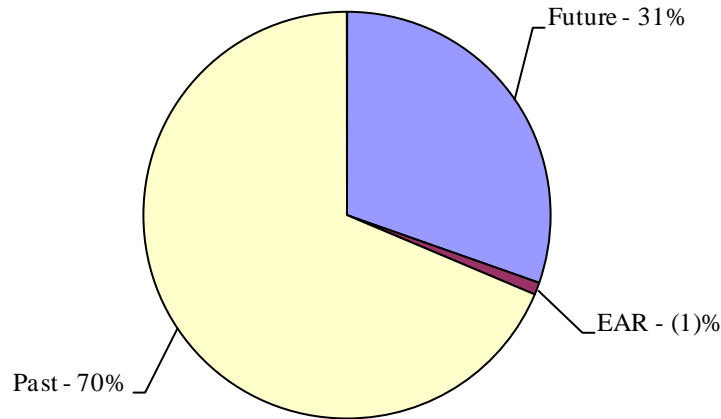
	<b>General</b>	<b>Executive &amp; Elected</b>	<b>Protective with Soc. Sec.</b>	<b>Protective without Soc. Sec.</b>
2012 Normal Cost Rate	11.8%	14.1%	14.9%	17.2%
Effect of Asset Performance	0.8	0.8	1.2	1.9
Effect of Benefit Changes	0.7	(1.0)	0.2	(0.2)
Demographic Experience	0.0	0.1	0.1	0.1
2013 Normal Cost Rate	13.3	14.0	16.4	19.0

This Gain/Loss Analysis is the third in the normal three-year experience cycle. It will be part of the basis for the experience investigation covering the period January 1, 2009 to December 31, 2011.

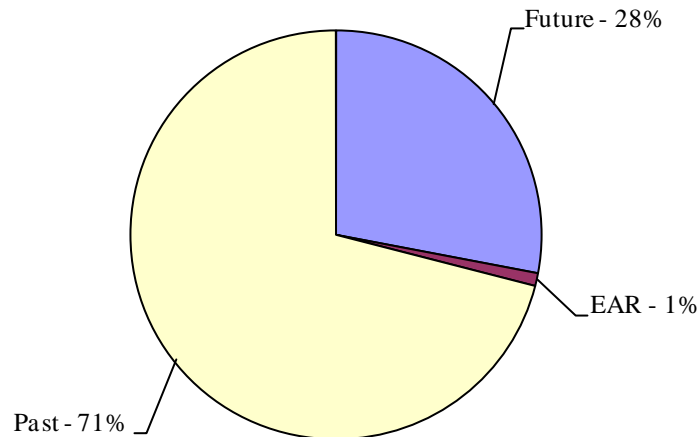
# FINANCING RETIREMENT SYSTEM BENEFIT LIABILITIES AT DECEMBER 31

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## 2011 - \$52.0 Billion



## 2010 - \$54.0 Billion

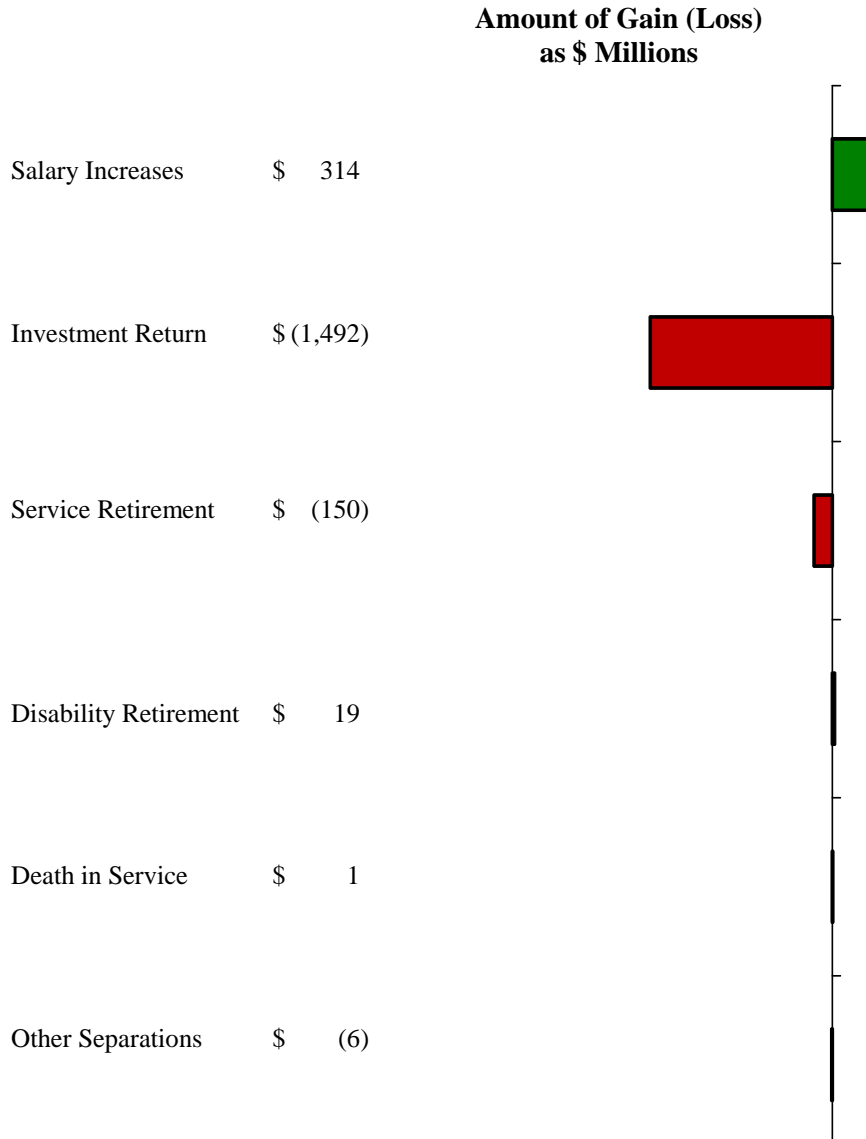


The gain/loss analysis studies changes in entry age normal accrued liabilities which are reflected in the Experience Amortization Reserve (EAR) as shown on page G-4. Future liabilities are financed via normal cost contributions each year as they accrue. Past liabilities are financed by application of present assets and unfunded liability contributions. The liabilities assigned to the EAR are technically part of the future. However, as part of the valuation method, they are financed as though they were part of the past. The EAR amortization period is selected each year to minimize short term contribution rate fluctuations.



**GAIN/LOSS ANALYSIS  
2011 EXPERIENCE  
DIVISIONS COMBINED**

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**ACTUARIAL GAINS & LOSSES DURING CALENDAR YEAR 2011**  
**(\$ MILLIONS)**

Type of Activity	General	Executive & Elected	Protective		Total
			With S.S.	Without S.S.	
<b>Decrement Risk Areas</b>					
Normal Retirement	\$ (50.0)	\$(2.1)	\$ (21.1)	\$ 0.7	\$ (72.5)
Early Retirement	(76.8)	0.1	(0.6)	0.3	(77.0)
Disability Retirement	16.9	0.1	1.4	0.6	19.0
Death with Benefit	0.2	0.2	0.4	(0.1)	0.7
Other Separations	(2.2)	1.2	(3.9)	(1.2)	(6.1)
<b>Economic Risk Areas</b>					
Salary Increases	270.1	5.2	30.6	7.9	313.8
Investment Return	(1,247.5)	(10.2)	(183.5)	(50.9)	(1,492.1)
<b>Other Activity (See Page 10)</b>	(125.6)	(7.2)	(20.4)	(5.9)	(159.1)
<b>Total Gain(Loss)</b>	<b>\$ (1,214.9)</b>	<b>\$(12.7)</b>	<b>\$ (197.1)</b>	<b>\$(48.6)</b>	<b>\$(1,473.3)</b>
<b>-% of accrued liability</b>	<b>(4.0)%</b>	<b>(5.3)%</b>	<b>(5.6)%</b>	<b>(5.4)%</b>	<b>(4.2)%</b>

**ANALYSIS OF OTHER ACTIVITY**  
**(\$ MILLIONS)**

	General	Executive & Elected	Protective		Total
			With S.S.	Without S.S.	
Expected Reserve Transfers					
Normal Retirement	\$3,193	\$40	\$ 349	\$71	\$3,653
Early Retirement	1,824	6	49	5	1,884
Death	45	2	3	0	50
Disability Retirement	50	0	6	3	59
Deferred Retirement	320	3	24	6	353
Expected Total Reserve Transfers	5,432	51	431	85	5,999
Actual Reserve Transfer (From Retiree Report)	5,499	56	442	89	6,086
<b>Reserve Difference</b>	(67)	(5)	(11)	(4)	(87)
Expected Refunds	31	0	1	0	32
Actual Refunds	25	0	2	1	28
<b>Refund Difference</b>	6	0	(1)	(1)	4
<b>Re-established Liability</b>	(53)	(2)	(4)	0	(58)
Total Explained Difference	(114)	(7)	(16)	(5)	(141)
Unknown Difference	(12)	(1)	(5)	(1)	(18)
Total Other Activity	(126)	(7)	(20)	(6)	(159)
Other Activity as % of Liabilities	(0.41)%	(2.94)%	(0.57)%	(0.66)%	(0.45)%

This schedule analyzes reserve transfers and contribution refunds and shows the portion of “other” activity that can be explained by those sources.

**COMPARATIVE SCHEDULE OF EXPERIENCE  
5-YEAR HISTORY OF GAINS AND (LOSSES)  
(\$ MILLIONS)**

Year	Normal & Early Retmt.	Disability Retmt.	Other Separations*	Salary Increases	Investment Return	Other	Total
<b>GENERAL</b>							
2007	\$ (6.5)	\$ 14.1	\$ (27.3)	\$ 78.6	\$ 830.8	\$ (210.4)	\$ 679.3
2008	(7.4)	20.3	(28.5)	66.3	(832.7)	(144.0)	(926.0)
2009	20.2	18.7	(60.6)	360.5	(762.1)	(47.0)	(470.3)
2010	9.6	19.8	(48.3)	628.8	(739.1)	(82.3)	(210.5)
2011	<b>(126.8)</b>	<b>16.9</b>	<b>(2.0)</b>	<b>270.1</b>	<b>(1,247.5)</b>	<b>(125.6)</b>	<b>(1,214.9)</b>
<b>EXECUTIVE &amp; ELECTED</b>							
2007	\$ (0.8)	\$ 0.1	\$ 0.3	\$ (0.2)	\$ 10.2	\$ (6.1)	\$ 3.5
2008	2.2	0.1	(1.5)	(1.3)	(2.8)	(4.1)	(7.4)
2009	(0.1)	0.1	(1.2)	7.9	(10.4)	(5.0)	(8.7)
2010	(0.5)	0.1	(1.0)	6.7	(8.3)	(1.8)	(4.8)
2011	<b>(2.0)</b>	<b>0.1</b>	<b>1.4</b>	<b>5.2</b>	<b>(10.2)</b>	<b>(7.2)</b>	<b>(12.7)</b>
<b>PROTECTIVE WITH SOCIAL SECURITY</b>							
2007	\$ 3.0	\$ (0.7)	\$ (3.8)	\$ 0.3	\$ 102.2	\$ (21.2)	\$ 79.8
2008	4.2	2.2	(6.8)	4.6	(144.7)	(7.4)	(147.9)
2009	9.1	1.9	(9.1)	74.6	(110.9)	(4.2)	(38.6)
2010	6.3	1.5	(7.2)	106.8	(101.9)	(11.0)	(5.5)
2011	<b>(21.7)</b>	<b>1.4</b>	<b>(3.5)</b>	<b>30.6</b>	<b>(183.5)</b>	<b>(20.4)</b>	<b>(197.1)</b>
<b>PROTECTIVE WITHOUT SOCIAL SECURITY</b>							
2007	\$ 1.1	\$ -	\$ (0.5)	\$ 0.8	\$ 34.8	\$ (4.6)	\$ 31.6
2008	1.2	0.8	0.3	1.6	(46.9)	(3.0)	(46.0)
2009	3.4	0.8	(1.3)	5.7	(28.6)	(2.6)	(22.6)
2010	3.4	0.6	(0.5)	30.0	(26.4)	(3.7)	3.4
2011	<b>1.0</b>	<b>0.6</b>	<b>(1.3)</b>	<b>7.9</b>	<b>(50.9)</b>	<b>(5.9)</b>	<b>(48.6)</b>

\* Includes separation due to death.

**GAIN (LOSS) FROM INVESTMENT INCOME DURING CALENDAR YEAR 2011**  
**(\$ MILLIONS)**

	General	Executive & Elected	Protective		Total
			With SS	Without SS	
(1) Beginning of Year Active Participant Assets					
(a) Participant Accumulation Reserve (PAR)	\$14,448.3	\$82.2	\$1,261.4	\$315.7	\$16,107.6
(b) PAR Closing Adjustment	0.0	0.0	0.0	0.0	0.0
(c) Employer Accumulation Reserve (EAR)	19,816.1	195.2	2,479.0	633.7	23,124.0
(d) EAR Closing Adjustment	0.0	0.0	0.0	0.0	0.0
(e) Total	34,264.4	277.4	3,740.4	949.4	39,231.6
(2) End of Year Active Participant Assets					
(a) Participant Accumulation Reserve	12,791.1	63.3	1,150.6	290.0	14,295.0
(b) Employer Accumulation Reserve	17,678.7	175.0	2,355.9	613.1	20,822.7
(c) Total	30,469.8	238.3	3,506.5	903.1	35,117.7
(3) Investment Earnings Credited					
(a) Participant Accumulation Reserve	160.5	1.0	13.4	3.5	178.4
(b) Employer Accumulation Reserve	236.9	2.6	31.2	8.3	279.0
(c) Total	397.4	3.6	44.6	11.8	457.4
(4) Average Balance: $.5 \times \{(1e)+(2c)-(3c)\}$	32,168.4	256.1	3,601.2	920.4	36,946.1
(5) Expected Earnings: $.072 \times (4)$	2,316.1	18.4	259.3	66.3	2,660.1
(6) Gain (Loss) for year from investment experience: $(3c)-(5)$	(1,918.7)	(14.8)	(214.7)	(54.5)	(2,202.7)
(7) Portion applied to Change in Variable Excess Reserve and Money Purchase Minimum Benefit	(671.2)	(4.6)	(31.2)	(3.6)	(710.6)
<b>(8) Remaining Gain (Loss): (6)-(7)</b>	<b>\$ (1,247.5)</b>	<b>\$ (10.2)</b>	<b>\$ (183.5)</b>	<b>\$(50.9)</b>	<b>\$ (1,492.1)</b>

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**SECTION A**

**WITHDRAWAL EXPERIENCE**

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**GENERAL MALES  
WITHDRAWAL EXPERIENCE  
DURING CALENDAR YEAR 2011**

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**Male Service-Based Withdrawals**

<b>Service Index</b>	<b>Withdrawals</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Withdrawals</b>
1	450	1,965	0.2290	0.2100	413
2	550	3,008	0.1828	0.1300	391
3	282	2,522	0.1118	0.0900	227
4	241	2,545	0.0947	0.0700	178
5	142	1,945	0.0730	0.0580	113
6	111	1,462	0.0759	0.0470	69
7	97	1,325	0.0732	0.0430	57
8	80	1,093	0.0732	0.0400	44
9	54	1,171	0.0461	0.0350	41
10	64	1,292	0.0495	0.0300	39
<b>Totals</b>	<b>2,071</b>	<b>18,328</b>	<b>0.1130</b>	<b>0.0858</b>	<b>1,572</b>

**Male Age-Based Withdrawals**

<b>Age</b>	<b>Withdrawals</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Withdrawals</b>
25-29	-	13	0.0000	0.0300	-
30-34	10	405	0.0247	0.0300	12
35-39	33	1,369	0.0241	0.0210	29
40-44	57	2,682	0.0213	0.0170	46
45-49	75	4,280	0.0175	0.0135	58
50-54	97	6,291	0.0154	0.0120	75
Over 54	154	-	N/A		154
<b>Totals</b>	<b>426</b>	<b>15,040</b>	<b>0.0283</b>	<b>0.0249</b>	<b>374</b>

**GENERAL FEMALES  
WITHDRAWAL EXPERIENCE  
DURING CALENDAR YEAR 2011**

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**Female Service-Based Withdrawals**

<b>Service Index</b>	<b>Withdrawals</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Withdrawals</b>
1	996	5,004	0.1990	0.2000	1,001
2	1,112	7,342	0.1515	0.1400	1,028
3	725	6,300	0.1151	0.1000	630
4	521	5,600	0.0930	0.0820	459
5	369	4,416	0.0836	0.0720	318
6	273	3,328	0.0820	0.0620	206
7	231	3,014	0.0766	0.0530	160
8	193	2,789	0.0692	0.0470	131
9	178	2,758	0.0645	0.0440	121
10	156	2,707	0.0576	0.0400	108
<b>Totals</b>	<b>4,754</b>	<b>43,258</b>	<b>0.1099</b>	<b>0.0962</b>	<b>4,162</b>

**Female Age-Based Withdrawals**

<b>Age</b>	<b>Withdrawals</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Withdrawals</b>
25-29	1	19	0.0526	0.0400	1
30-34	20	635	0.0315	0.0350	22
35-39	55	1,988	0.0277	0.0300	60
40-44	82	3,645	0.0225	0.0240	87
45-49	133	6,035	0.0220	0.0190	115
50-54	186	9,624	0.0193	0.0170	164
Over 54	241	-	N/A		241
<b>Totals</b>	<b>718</b>	<b>21,946</b>	<b>0.0327</b>	<b>0.0314</b>	<b>690</b>



**PUBLIC SCHOOLS MALES  
WITHDRAWAL EXPERIENCE  
DURING CALENDAR YEAR 2011**

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**Male Service-Based Withdrawals**

<b>Service Index</b>	<b>Withdrawals</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Withdrawals</b>
1	77	548	0.1405	0.1650	90
2	110	892	0.1233	0.1100	98
3	89	839	0.1061	0.0710	60
4	68	851	0.0799	0.0520	44
5	47	805	0.0584	0.0420	34
6	30	727	0.0413	0.0340	25
7	30	787	0.0381	0.0290	23
8	28	730	0.0384	0.0250	18
9	16	708	0.0226	0.0225	16
10	16	800	0.0200	0.0200	16
Totals	511	7,687	0.0665	0.0552	424

**Male Age-Based Withdrawals**

<b>Age</b>	<b>Withdrawals</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Withdrawals</b>
25-29	-	-	N/A	0.0200	-
30-34	4	260	0.0154	0.0150	4
35-39	30	1,864	0.0161	0.0120	22
40-44	41	2,616	0.0157	0.0110	29
45-49	41	2,529	0.0162	0.0090	23
50-54	45	2,565	0.0175	0.0080	21
Over 54	45	-	N/A		45
Totals	206	9,834	0.0209	0.0146	144

**PUBLIC SCHOOLS FEMALES  
WITHDRAWAL EXPERIENCE  
DURING CALENDAR YEAR 2011**

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**Female Service-Based Withdrawals**

<b>Service Index</b>	<b>Withdrawals</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Withdrawals</b>
1	198	1,491	0.1328	0.1300	194
2	323	2,632	0.1227	0.0950	250
3	211	2,538	0.0831	0.0720	183
4	172	2,700	0.0637	0.0610	165
5	127	2,559	0.0496	0.0500	128
6	132	2,348	0.0562	0.0430	101
7	104	2,266	0.0459	0.0370	84
8	82	2,141	0.0383	0.0320	69
9	80	2,134	0.0375	0.0270	58
10	64	2,250	0.0284	0.0250	56
<b>Totals</b>	<b>1,493</b>	<b>23,059</b>	<b>0.0647</b>	<b>0.0559</b>	<b>1,288</b>

**Female Age-Based Withdrawals**

<b>Age</b>	<b>Withdrawals</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Withdrawals</b>
25-29	-	1	0.0000	0.0200	-
30-34	19	782	0.0243	0.0190	15
35-39	56	4,368	0.0128	0.0150	66
40-44	67	6,124	0.0109	0.0120	73
45-49	70	6,107	0.0115	0.0100	61
50-54	89	6,462	0.0138	0.0090	58
Over 54	92	-	N/A		92
<b>Totals</b>	<b>393</b>	<b>23,844</b>	<b>0.0165</b>	<b>0.0153</b>	<b>365</b>

**UNIVERSITY MALES  
WITHDRAWAL EXPERIENCE  
DURING CALENDAR YEAR 2011**

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**Male Service-Based Withdrawals**

<b>Service Index</b>	<b>Withdrawals</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Withdrawals</b>
1	76	365	0.2082	0.1800	66
2	120	637	0.1884	0.1600	102
3	93	570	0.1632	0.1250	71
4	67	596	0.1124	0.1050	63
5	47	436	0.1078	0.0880	38
6	42	366	0.1148	0.0760	28
7	40	332	0.1205	0.0620	21
8	30	339	0.0885	0.0530	18
9	16	287	0.0557	0.0410	12
10	12	294	0.0408	0.0360	11
<b>Totals</b>	<b>543</b>	<b>4,222</b>	<b>0.1286</b>	<b>0.1018</b>	<b>430</b>

**Male Age-Based Withdrawals**

<b>Age</b>	<b>Withdrawals</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Withdrawals</b>
25-29	-	-	N/A	0.0350	-
30-34	2	22	0.0909	0.0350	1
35-39	10	192	0.0521	0.0350	7
40-44	13	480	0.0271	0.0300	14
45-49	10	734	0.0136	0.0240	18
50-54	19	942	0.0202	0.0150	14
Over 54	17	-	N/A		17
<b>Totals</b>	<b>71</b>	<b>2,370</b>	<b>0.0300</b>	<b>0.0300</b>	<b>71</b>

**UNIVERSITY FEMALES  
WITHDRAWAL EXPERIENCE  
DURING CALENDAR YEAR 2011**

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**Female Service-Based Withdrawals**

<b>Service Index</b>	<b>Withdrawals</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Withdrawals</b>
1	83	430	0.1930	0.2000	86
2	124	690	0.1797	0.1600	110
3	97	734	0.1322	0.1400	103
4	90	744	0.1210	0.1200	89
5	75	564	0.1330	0.0975	55
6	39	479	0.0814	0.0915	44
7	41	419	0.0979	0.0775	32
8	33	400	0.0825	0.0675	27
9	20	345	0.0580	0.0600	21
10	7	362	0.0193	0.0525	19
<b>Totals</b>	<b>609</b>	<b>5,167</b>	<b>0.1179</b>	<b>0.1134</b>	<b>586</b>

**Female Age-Based Withdrawals**

<b>Age</b>	<b>Withdrawals</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Withdrawals</b>
25-29	-	-	N/A	0.0525	-
30-34	1	42	0.0238	0.0525	2
35-39	6	219	0.0274	0.0525	11
40-44	17	490	0.0347	0.0375	18
45-49	23	722	0.0319	0.0250	18
50-54	17	918	0.0185	0.0150	14
Over 54	13	-	N/A		13
<b>Totals</b>	<b>77</b>	<b>2,391</b>	<b>0.0322</b>	<b>0.0318</b>	<b>76</b>

**PROTECTIVE WITH SOCIAL SECURITY  
WITHDRAWAL EXPERIENCE  
DURING CALENDAR YEAR 2011**

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**Male and Female Service-Based Withdrawals**

<b>Service Index</b>	<b>Withdrawals</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Withdrawals</b>
1	34	322	0.1056	0.1300	42
2	49	680	0.0721	0.0700	48
3	49	858	0.0571	0.0460	39
4	50	990	0.0505	0.0415	41
5	39	923	0.0423	0.0325	30
6	18	751	0.0240	0.0300	23
7	24	686	0.0350	0.0275	19
8	23	721	0.0319	0.0250	18
9	22	723	0.0304	0.0225	16
10	22	878	0.0251	0.0190	17
Totals	330	7,532	0.0438	0.0389	293

**Male and Female Age-Based Withdrawals**

<b>Age</b>	<b>Withdrawals</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Withdrawals</b>
25-29	1	26	0.0385	0.0190	-
30-34	13	759	0.0171	0.0190	14
35-39	34	2,093	0.0162	0.0150	31
40-44	35	3,004	0.0117	0.0120	36
45-49	41	2,548	0.0161	0.0110	28
50-54	16	526	0.0304	0.0100	5
Over 54	22	-	N/A		22
Totals	162	8,956	0.0181	0.0152	136

**PROTECTIVE WITHOUT SOCIAL SECURITY  
WITHDRAWAL EXPERIENCE  
DURING CALENDAR YEAR 2011**

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**Male and Female Service-Based Withdrawals**

<b>Service Index</b>	<b>Withdrawals</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Withdrawals</b>
1	1	35	0.0286	0.0520	2
2	4	85	0.0471	0.0340	3
3	2	91	0.0220	0.0210	2
4	1	104	0.0096	0.0150	2
5	-	84	0.0000	0.0140	1
6	1	111	0.0090	0.0130	1
7	2	67	0.0299	0.0120	1
8	-	82	0.0000	0.0100	1
9	-	91	0.0000	0.0090	1
10	1	67	0.0149	0.0085	1
Totals	12	817	0.0147	0.0184	15

**Male and Female Age-Based Withdrawals**

<b>Age</b>	<b>Withdrawals</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Withdrawals</b>
25-29	-	-	N/A	0.0085	-
30-34	1	83	0.0120	0.0080	1
35-39	1	308	0.0032	0.0075	2
40-44	1	418	0.0024	0.0070	3
45-49	-	481	0.0000	0.0065	3
50-54	12	68	0.1765	0.0060	-
Totals	15	1,358	0.0110	0.0066	9

**EXECUTIVE AND ELECTED MALES  
WITHDRAWAL EXPERIENCE  
DURING CALENDAR YEAR 2011**

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**Male and Female Service-Based Withdrawals**

<b>Service Index</b>	<b>Withdrawals</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Withdrawals</b>
1	4	62	0.0645	0.2000	12
2	4	80	0.0500	0.1450	12
3	14	56	0.2500	0.1250	7
4	11	46	0.2391	0.1050	5
5	11	47	0.2340	0.1000	5
6	5	10	0.5000	0.0950	1
7	5	28	0.1786	0.0900	3
8	4	17	0.2353	0.0750	1
9	7	25	0.2800	0.0700	2
10	3	17	0.1765	0.0650	1
<b>Totals</b>	<b>68</b>	<b>388</b>	<b>0.1753</b>	<b>0.1263</b>	<b>49</b>

**Male and Female Age-Based Withdrawals**

<b>Age</b>	<b>Withdrawals</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Withdrawals</b>
25-29	-	-	N/A	0.0650	-
30-34	-	-	N/A	0.0650	-
35-39	-	14	0.0000	0.0600	1
40-44	3	48	0.0625	0.0450	2
45-49	2	71	0.0282	0.0400	3
50-54	6	157	0.0382	0.0375	6
Over 54	2	-	N/A		2
<b>Totals</b>	<b>13</b>	<b>290</b>	<b>0.0448</b>	<b>0.0483</b>	<b>14</b>

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**SECTION B**

**DISABILITY EXPERIENCE**

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**GENERAL  
DISABILITY EXPERIENCE  
DURING CALENDAR YEAR 2011**

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**Male Disability Experience**

<b>Age</b>	<b>Disabilities</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Disabilities</b>
Under 20	-	-	N/A	0.0001	-
20-24	-	15	0.0000	0.0001	-
25-29	-	541	0.0000	0.0001	-
30-34	-	1,832	0.0000	0.0001	-
35-39	-	2,674	0.0000	0.0002	1
40-44	-	4,014	0.0000	0.0006	3
45-49	3	5,609	0.0005	0.0008	5
50-54	11	7,617	0.0014	0.0023	18
55-59	16	6,584	0.0024	0.0041	27
60-64	12	3,525	0.0034	0.0082	29
65-69	-	656	0.0000	0.0032	2
70-74	-	201	0.0000	0.0028	1
75 and over	-	-	N/A	0.0028	-
<b>Totals</b>	<b>42</b>	<b>33,268</b>	<b>0.0013</b>	<b>0.0026</b>	<b>86</b>

**Female Disability Experience**

<b>Age</b>	<b>Disabilities</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Disabilities</b>
Under 20	-	-	N/A	0.0001	-
20-24	-	30	0.0000	0.0001	-
25-29	-	1,107	0.0000	0.0001	-
30-34	-	3,170	0.0000	0.0003	1
35-39	1	4,265	0.0002	0.0004	2
40-44	-	6,253	0.0000	0.0007	4
45-49	3	9,882	0.0003	0.0009	9
50-54	14	13,829	0.0010	0.0016	22
55-59	20	12,134	0.0016	0.0031	37
60-64	14	7,163	0.0020	0.0038	27
65-69	1	1,359	0.0007	0.0031	4
70-74	-	276	0.0000	0.0026	1
75 and over	-	-	N/A	0.0026	-
<b>Totals</b>	<b>53</b>	<b>59,468</b>	<b>0.0009</b>	<b>0.0018</b>	<b>107</b>

The people shown on this page are cases involving \$40.63 disability benefits and includes those who were either active or inactive with pending benefits at the beginning of the year. The LTDI plan is described in a separate report.

**PUBLIC SCHOOLS  
DISABILITY EXPERIENCE  
DURING CALENDAR YEAR 2011**

**Male Disability Experience**

<b>Age</b>	<b>Disabilities</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Disabilities</b>
Under 20	-	-	N/A	0.0001	-
20-24	-	1	0.0000	0.0001	-
25-29	-	280	0.0000	0.0001	-
30-34	-	2,143	0.0000	0.0001	-
35-39	-	2,709	0.0000	0.0001	-
40-44	-	3,119	0.0000	0.0003	1
45-49	-	2,879	0.0000	0.0005	2
50-54	3	2,828	0.0011	0.0020	6
55-59	5	2,093	0.0024	0.0026	5
60-64	4	904	0.0044	0.0046	4
65-69	-	116	0.0000	0.0065	1
70-74	-	26	0.0000	0.0068	-
75 and over	-	-	N/A	0.0068	-
<b>Totals</b>	<b>12</b>	<b>17,098</b>	<b>0.0007</b>	<b>0.0011</b>	<b>19</b>

**Female Disability Experience**

<b>Age</b>	<b>Disabilities</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Disabilities</b>
Under 20	-	-	N/A	0.0001	-
20-24	-	-	N/A	0.0001	-
25-29	-	1,163	0.0000	0.0001	-
30-34	-	5,963	0.0000	0.0001	1
35-39	-	6,586	0.0000	0.0001	1
40-44	-	7,615	0.0000	0.0003	2
45-49	3	7,376	0.0004	0.0012	9
50-54	11	7,545	0.0015	0.0016	12
55-59	8	6,297	0.0013	0.0024	15
60-64	6	3,017	0.0020	0.0034	10
65-69	-	269	0.0000	0.0019	1
70-74	-	53	0.0000	0.0016	-
75 and over	-	-	N/A	0.0016	-
<b>Totals</b>	<b>28</b>	<b>45,884</b>	<b>0.0006</b>	<b>0.0011</b>	<b>51</b>

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**UNIVERSITY  
DISABILITY EXPERIENCE  
DURING CALENDAR YEAR 2011**

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**Male Disability Experience**

<b>Age</b>	<b>Disabilities</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Disabilities</b>
Under 20	-	-	N/A	0.0001	-
20-24	-	-	N/A	0.0001	-
25-29	-	37	0.0000	0.0001	-
30-34	-	279	0.0000	0.0001	-
35-39	-	590	0.0000	0.0001	-
40-44	-	988	0.0000	0.0001	-
45-49	-	1,086	0.0000	0.0003	-
50-54	-	1,191	0.0000	0.0006	1
55-59	-	1,207	0.0000	0.0019	2
60-64	-	796	0.0000	0.0018	1
65-69	-	141	0.0000	0.0022	-
70-74	-	27	0.0000	0.0020	-
75 and over	-	-	N/A	0.0020	-
<b>Totals</b>	-	<b>6,342</b>	<b>0.0000</b>	<b>0.0006</b>	<b>4</b>

**Female Disability Experience**

<b>Age</b>	<b>Disabilities</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Disabilities</b>
Under 20	-	-	N/A	0.0001	-
20-24	-	-	N/A	0.0001	-
25-29	-	71	0.0000	0.0001	-
30-34	-	477	0.0000	0.0001	-
35-39	-	743	0.0000	0.0005	-
40-44	-	994	0.0000	0.0006	1
45-49	1	1,124	0.0009	0.0005	1
50-54	-	1,230	0.0000	0.0011	1
55-59	1	1,179	0.0008	0.0015	2
60-64	-	707	0.0000	0.0023	2
65-69	-	102	0.0000	0.0016	-
70-74	-	18	0.0000	0.0013	-
75 and over	-	-	N/A	0.0013	-
<b>Totals</b>	<b>2</b>	<b>6,645</b>	<b>0.0003</b>	<b>0.0011</b>	<b>7</b>

The people shown on this page are cases involving \$40.63 disability benefits and includes those who were either active or inactive with pending benefits at the beginning of the year. The LTDI plan is described in a separate report.

**PROTECTIVE WITH SOCIAL SECURITY  
DISABILITY EXPERIENCE  
DURING CALENDAR YEAR 2011**

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**Male and Female Disability Experience**

<b>Age</b>	<b>Disabilities</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Disabilities</b>
Under 20	-	-	N/A	0.0002	-
20-24	-	22	0.0000	0.0002	-
25-29	-	859	0.0000	0.0002	-
30-34	-	2,353	0.0000	0.0002	-
35-39	-	2,876	0.0000	0.0003	1
40-44	1	3,480	0.0003	0.0004	1
45-49	2	2,860	0.0007	0.0007	2
50-54	9	1,916	0.0047	0.0011	2
55-59	1	478	0.0021	0.0238	11
60-64	-	202	0.0000	0.0255	5
65-69	-	41	0.0000	0.0017	-
70-74	-	-	N/A	0.0017	-
75 and over	-	-	N/A	0.0017	-
<b>Totals</b>	<b>13</b>	<b>15,087</b>	<b>0.0009</b>	<b>0.0015</b>	<b>22</b>

The people shown on this page are cases involving \$40.63 disability benefits and includes those who were either active or inactive with pending benefits at the beginning of the year. The LTDI plan is described in a separate report.

**PROTECTIVE WITHOUT SOCIAL SECURITY  
DISABILITY EXPERIENCE  
DURING CALENDAR YEAR 2011**

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**Male and Female Disability Experience**

<b>Age</b>	<b>Disabilities</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Disabilities</b>
Under 20	-	-	N/A	0.0005	-
20-24	-	2	0.0000	0.0005	-
25-29	-	80	0.0000	0.0005	-
30-34	-	271	0.0000	0.0005	-
35-39	-	415	0.0000	0.0006	-
40-44	-	485	0.0000	0.0010	-
45-49	-	500	0.0000	0.0020	1
50-54	4	322	0.0124	0.0140	5
55-59	-	21	0.0000	0.0020	-
60-64	-	5	0.0000	0.0020	-
65-69	-	1	0.0000	0.0020	-
70-74	-	-	N/A	0.0020	-
75 and over	-	-	N/A	0.0020	-
<b>Totals</b>	<b>4</b>	<b>2,102</b>	<b>0.0019</b>	<b>0.0029</b>	<b>6</b>

The people shown on this page are cases involving \$40.63 disability benefits and includes those who were either active or inactive with pending benefits at the beginning of the year. The LTDI plan is described in a separate report.

**EXECUTIVE AND ELECTED  
DISABILITY EXPERIENCE  
DURING CALENDAR YEAR 2011**

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**Male and Female Disability Experience**

<b>Age</b>	<b>Disabilities</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Disabilities</b>
Under 20	-	-	N/A	0.0000	-
20-24	-	-	N/A	0.0000	-
25-29	-	-	N/A	0.0000	-
30-34	-	4	0.0000	0.0000	-
35-39	-	44	0.0000	0.0001	-
40-44	-	73	0.0000	0.0001	-
45-49	-	107	0.0000	0.0002	-
50-54	-	187	0.0000	0.0004	-
55-59	-	191	0.0000	0.0016	-
60-64	-	145	0.0000	0.0014	-
65-69	-	59	0.0000	0.0012	-
70-74	-	19	0.0000	0.0012	-
75 and over	-	-	N/A	0.0012	-
Totals	-	829	N/A	N/A	-

The people shown on this page are cases involving \$40.63 disability benefits and includes those who were either active or inactive with pending benefits at the beginning of the year. The LTDI plan is described in a separate report.

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**SECTION C**  
**PAY INCREASES**

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**GENERAL  
PAY INCREASE ASSUMPTION  
DURING CALENDAR YEAR 2011**

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**Service-Based Pay Increase Experience**

<b>Service Group</b>		<b>Total % Increase</b>	
<b>Beginning of Year</b>	<b>Number</b>	<b>Actual</b>	<b>Expected</b>
1-5	38,067	5.30 %	7.50 %
6-10	27,782	1.89 %	6.00 %
11-15	21,645	1.35 %	5.40 %
16-20	15,051	1.06 %	5.20 %
21-25	11,611	0.85 %	5.00 %
26-30	7,176	0.65 %	4.80 %
31-35	5,102	0.46 %	4.60 %
36-40	1,451	0.39 %	4.40 %
Over 40	214	0.90 %	4.40 %
<b>Total</b>	<b>128,099</b>		



**PUBLIC SCHOOLS  
PAY INCREASE ASSUMPTION  
DURING CALENDAR YEAR 2011**

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**Service-Based Pay Increase Experience**

<b>Service Group</b>		<b>Total % Increase</b>	
<b>Beginning of Year</b>	<b>Number</b>	<b>Actual</b>	<b>Expected</b>
1-5	15,699	9.43 %	10.00 %
6-10	16,474	5.70 %	8.00 %
11-15	15,638	4.38 %	6.80 %
16-20	11,790	2.94 %	5.20 %
21-25	8,621	2.04 %	4.70 %
26-30	4,786	1.85 %	4.30 %
31-35	3,351	1.57 %	4.30 %
36-40	964	1.29 %	4.20 %
Over 40	123	0.62 %	4.20 %
<b>Total</b>	<b>77,446</b>		

**UNIVERSITY  
PAY INCREASE ASSUMPTION  
DURING CALENDAR YEAR 2011**

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**Service-Based Pay Increase Experience**

<b>Service Group</b>		<b>Total % Increase</b>	
<b>Beginning of Year</b>	<b>Number</b>	<b>Actual</b>	<b>Expected</b>
1-5	5,070	11.37 %	7.50 %
6-10	4,061	2.77 %	7.00 %
11-15	3,106	2.48 %	6.50 %
16-20	1,967	1.49 %	6.00 %
21-25	1,647	0.75 %	5.50 %
26-30	1,076	0.88 %	5.20 %
31-35	578	0.61 %	5.00 %
36-40	240	1.07 %	4.70 %
Over 40	89	(0.74)%	4.60 %
<b>Total</b>	<b>17,834</b>		

**PROTECTIVE WITH SOCIAL SECURITY  
PAY INCREASE ASSUMPTION  
DURING CALENDAR YEAR 2011**

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**Male and Female Service-Based Pay Increase Experience**

Service Group		Total % Increase	
Beginning of Year	Number	Actual	Expected
1-5	3,861	8.08 %	9.00 %
6-10	4,304	1.73 %	5.80 %
11-15	4,247	1.25 %	5.20 %
16-20	3,134	1.04 %	5.00 %
21-25	2,094	1.11 %	4.90 %
26-30	1,126	1.04 %	4.70 %
31-35	448	1.22 %	4.60 %
36-40	68	1.08 %	4.50 %
Over 40	7	2.41 %	4.40 %
Total	19,289		

**PROTECTIVE WITHOUT SOCIAL SECURITY  
PAY INCREASE ASSUMPTION  
DURING CALENDAR YEAR 2011**

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**Male and Female Service-Based Pay Increase Experience**

Service Group		Total % Increase	
Beginning of Year	Number	Actual	Expected
1-5	400	9.35 %	9.00 %
6-10	432	1.35 %	5.55 %
11-15	600	0.22 %	4.75 %
16-20	447	(0.23)%	4.65 %
21-25	413	0.05 %	4.55 %
26-30	264	0.75 %	4.45 %
31-35	79	(0.28)%	4.35 %
36-40	2	0.07 %	4.25 %
Over 40	-	N/A	4.15 %
Total	2,637		

**EXECUTIVE AND ELECTED  
PAY INCREASE ASSUMPTION  
DURING CALENDAR YEAR 2011**

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**Service-Based Pay Increase Experience**

<b>Service Group</b>		<b>Total % Increase</b>	
<b>Beginning of Year</b>	<b>Number</b>	<b>Actual</b>	<b>Expected</b>
1-5	354	7.81 %	5.20 %
6-10	208	2.38 %	5.10 %
11-15	175	1.83 %	5.00 %
16-20	165	1.16 %	4.90 %
21-25	142	1.61 %	4.70 %
26-30	116	1.57 %	4.50 %
31-35	87	0.06 %	4.40 %
36-40	32	2.04 %	4.00 %
Over 40	9	0.38 %	4.00 %
<b>Total</b>	<b>1,288</b>		

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**SECTION D**

**NORMAL AND EARLY RETIREMENT EXPERIENCE**

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**GENERAL MALES  
NORMAL RETIREMENT EXPERIENCE  
DURING CALENDAR YEAR 2011**

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**Male Age-Based Retirement Experience**

<b>Age</b>	<b>Retirements</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Retirements</b>
57	121	398	0.3040	0.2400	96
58	104	352	0.2955	0.2400	84
59	109	361	0.3019	0.2400	87
60	127	341	0.3724	0.2400	82
61	104	295	0.3525	0.2000	59
62	121	262	0.4618	0.3300	86
63	101	201	0.5025	0.3300	66
64	76	156	0.4872	0.2400	37
65	162	595	0.2723	0.2600	155
66	98	351	0.2792	0.2800	98
67	77	293	0.2628	0.1500	44
68	35	210	0.1667	0.1500	32
69	34	184	0.1848	0.1500	28
70	22	147	0.1497	0.1500	22
71	14	113	0.1239	0.1500	17
72	6	81	0.0741	0.1500	12
73	13	91	0.1429	0.1500	14
74	6	63	0.0952	0.1500	9
Totals	1,330	4,494	0.2960	0.2287	1,028
75 & Over	27	296			296
Totals	1,357	4,790			1,324

**GENERAL MALES  
EARLY RETIREMENT EXPERIENCE  
DURING CALENDAR YEAR 2011**

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**Male Age-Based Early Retirement Experience**

<b>Age</b>	<b>Retirements</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Retirements</b>
55	119	1,613	0.0738	0.0800	129
56	144	1,586	0.0908	0.0800	127
57	68	1,209	0.0562	0.0450	54
58	75	1,052	0.0713	0.0500	53
59	86	1,124	0.0765	0.0550	62
60	102	971	0.1050	0.0800	78
61	91	796	0.1143	0.0800	64
62	123	682	0.1804	0.1700	116
63	122	597	0.2044	0.1700	101
64	108	479	0.2255	0.1700	81
<b>Totals</b>	<b>1,038</b>	<b>10,109</b>	<b>0.1027</b>	<b>0.0856</b>	<b>865</b>



**GENERAL FEMALES  
NORMAL RETIREMENT EXPERIENCE  
DURING CALENDAR YEAR 2011**

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**Female Age-Based Retirement Experience**

<b>Age</b>	<b>Retirements</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Retirements</b>
57	140	409	0.3423	0.1900	78
58	115	365	0.3151	0.1900	69
59	141	365	0.3863	0.1900	69
60	116	333	0.3483	0.1900	63
61	120	282	0.4255	0.1900	54
62	117	248	0.4718	0.2900	72
63	83	192	0.4323	0.2900	56
64	58	135	0.4296	0.2500	34
65	285	983	0.2899	0.2500	246
66	176	615	0.2862	0.2800	172
67	122	447	0.2729	0.1500	67
68	81	369	0.2195	0.1500	55
69	59	282	0.2092	0.1500	42
70	42	171	0.2456	0.1500	26
71	31	155	0.2000	0.1500	23
72	20	105	0.1905	0.1500	16
73	14	95	0.1474	0.1500	14
74	11	87	0.1264	0.1500	13
Totals	1,731	5,638	0.3070	0.2073	1,169
75 & Over	41	330			330
Totals	1,772	5,968			1,499

**GENERAL FEMALES  
EARLY RETIREMENT EXPERIENCE  
DURING CALENDAR YEAR 2011**

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**Female Age-Based Early Retirement Experience**

<b>Age</b>	<b>Retirements</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Retirements</b>
55	152	2,852	0.0533	0.0600	171
56	196	2,799	0.0700	0.0600	168
57	120	2,351	0.0510	0.0450	106
58	143	2,167	0.0660	0.0550	119
59	142	1,965	0.0723	0.0550	108
60	199	1,856	0.1072	0.0800	148
61	159	1,577	0.1008	0.0800	126
62	279	1,426	0.1957	0.1600	228
63	268	1,295	0.2069	0.1600	207
64	216	1,009	0.2141	0.1600	161
<b>Totals</b>	<b>1,874</b>	<b>19,297</b>	<b>0.0971</b>	<b>0.0799</b>	<b>1,542</b>

**PUBLIC SCHOOL MALES  
NORMAL RETIREMENT EXPERIENCE  
DURING CALENDAR YEAR 2011**

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**Male Age-Based Retirement Experience**

<b>Age</b>	<b>Retirements</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Retirements</b>
57	139	226	0.6150	0.4000	90
58	129	217	0.5945	0.3500	76
59	95	172	0.5523	0.2800	48
60	98	171	0.5731	0.2800	48
61	74	137	0.5401	0.2800	38
62	58	98	0.5918	0.3800	37
63	44	74	0.5946	0.3500	26
64	29	58	0.5000	0.2500	15
65	55	147	0.3741	0.2500	37
66	26	79	0.3291	0.2500	20
67	17	60	0.2833	0.2000	12
68	10	33	0.3030	0.2000	7
69	5	34	0.1471	0.2000	7
70	5	23	0.2174	0.2500	6
71	1	13	0.0769	0.2500	3
72	1	10	0.1000	0.2500	3
73	2	15	0.1333	0.2500	4
74	2	5	0.4000	0.2500	1
Totals	790	1,572	0.5025	0.3041	478
75 & Over	3	21			21
Totals	793	1,593			499

**PUBLIC SCHOOL MALES  
EARLY RETIREMENT EXPERIENCE  
DURING CALENDAR YEAR 2011**

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**Male Age-Based Early Retirement Experience**

<b>Age</b>	<b>Retirements</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Retirements</b>
55	111	581	0.1910	0.1500	87
56	155	613	0.2529	0.1500	92
57	53	356	0.1489	0.1500	53
58	53	264	0.2008	0.1400	37
59	48	279	0.1720	0.1100	31
60	54	256	0.2109	0.1500	38
61	45	202	0.2228	0.1400	28
62	52	189	0.2751	0.2300	43
63	36	139	0.2590	0.2300	32
64	26	118	0.2203	0.1600	19
<b>Totals</b>	<b>633</b>	<b>2,997</b>	<b>0.2112</b>	<b>0.1535</b>	<b>460</b>

**PUBLIC SCHOOL FEMALES  
NORMAL RETIREMENT EXPERIENCE  
DURING CALENDAR YEAR 2011**

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**Female Age-Based Retirement Experience**

<b>Age</b>	<b>Retirements</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Retirements</b>
57	226	471	0.4798	0.3000	141
58	247	407	0.6069	0.3000	122
59	229	384	0.5964	0.3000	115
60	200	319	0.6270	0.3000	96
61	133	240	0.5542	0.3000	72
62	129	193	0.6684	0.3800	73
63	74	118	0.6271	0.3200	38
64	60	107	0.5607	0.2600	28
65	120	284	0.4225	0.3100	88
66	64	167	0.3832	0.2700	45
67	46	132	0.3485	0.2600	34
68	21	67	0.3134	0.2400	16
69	10	50	0.2000	0.2200	11
70	9	34	0.2647	0.1800	6
71	10	29	0.3448	0.1800	5
72	3	31	0.0968	0.1800	6
73	2	20	0.1000	0.1800	4
74	2	15	0.1333	0.1800	3
Totals	1,585	3,068	0.5166	0.2943	903
75 & Over	7	44			44
Totals	1,592	3,112			947

**PUBLIC SCHOOL FEMALES  
EARLY RETIREMENT EXPERIENCE  
DURING CALENDAR YEAR 2011**

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**Female Age-Based Early Retirement Experience**

<b>Age</b>	<b>Retirements</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Retirements</b>
55	236	1,663	0.1419	0.1250	208
56	340	1,528	0.2225	0.1250	191
57	196	1,100	0.1782	0.1150	127
58	201	1,051	0.1912	0.1250	131
59	195	955	0.2042	0.1250	119
60	244	904	0.2699	0.1500	136
61	188	738	0.2547	0.1600	118
62	218	599	0.3639	0.2300	138
63	164	430	0.3814	0.2100	90
64	98	346	0.2832	0.1900	66
Totals	2,080	9,314	0.2233	0.1422	1,324

**UNIVERSITY MALES  
NORMAL RETIREMENT EXPERIENCE  
DURING CALENDAR YEAR 2011**

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**Male Age-Based Retirement Experience**

<b>Age</b>	<b>Retirements</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Retirements</b>
57	5	29	0.1724	0.1500	4
58	11	35	0.3143	0.1500	5
59	13	43	0.3023	0.1500	6
60	16	51	0.3137	0.1500	8
61	15	68	0.2206	0.1500	10
62	14	45	0.3111	0.1700	8
63	19	47	0.4043	0.1700	8
64	18	65	0.2769	0.1700	11
65	50	183	0.2732	0.2000	37
66	50	128	0.3906	0.2200	28
67	21	99	0.2121	0.1800	18
68	24	82	0.2927	0.1800	15
69	12	59	0.2034	0.1800	11
70	11	37	0.2973	0.2000	7
71	11	38	0.2895	0.2000	8
72	4	25	0.1600	0.1800	5
73	6	19	0.3158	0.1800	3
74	5	18	0.2778	0.1800	3
Totals	305	1,071	0.2848	0.1821	195
75 & Over	16	52			52
Totals	321	1,123			247

**UNIVERSITY MALES  
EARLY RETIREMENT EXPERIENCE  
DURING CALENDAR YEAR 2011**

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**Male Age-Based Early Retirement Experience**

<b>Age</b>	<b>Retirements</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Retirements</b>
55	7	259	0.0270	0.0500	13
56	5	263	0.0190	0.0450	12
57	8	243	0.0329	0.0250	6
58	7	230	0.0304	0.0350	8
59	12	212	0.0566	0.0400	8
60	9	211	0.0427	0.0550	12
61	9	174	0.0517	0.0750	13
62	12	147	0.0816	0.1000	15
63	17	133	0.1278	0.0950	13
64	17	131	0.1298	0.0850	11
Totals	103	2,003	0.0514	0.0554	111



**UNIVERSITY FEMALES  
NORMAL RETIREMENT EXPERIENCE  
DURING CALENDAR YEAR 2011**

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**Female Age-Based Retirement Experience**

<b>Age</b>	<b>Retirements</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Retirements</b>
57	7	29	0.2414	0.1700	5
58	5	26	0.1923	0.1400	4
59	9	42	0.2143	0.1400	6
60	13	45	0.2889	0.1400	6
61	15	40	0.3750	0.2200	9
62	11	31	0.3548	0.2000	6
63	15	29	0.5172	0.2000	6
64	6	18	0.3333	0.2000	4
65	35	103	0.3398	0.2200	23
66	26	89	0.2921	0.2000	18
67	12	41	0.2927	0.1800	7
68	2	27	0.0741	0.1800	5
69	10	30	0.3333	0.1800	5
70	6	19	0.3158	0.1800	3
71	4	15	0.2667	0.1800	3
72	3	14	0.2143	0.1800	3
73	3	6	0.5000	0.1800	1
74	1	1	1.0000	0.1800	-
Totals	183	605	0.3025	0.1884	114
75 & Over	3	15			15
Totals	186	620			129

**UNIVERSITY FEMALES  
EARLY RETIREMENT EXPERIENCE  
DURING CALENDAR YEAR 2011**

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**Female Age-Based Early Retirement Experience**

<b>Age</b>	<b>Retirements</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Retirements</b>
55	7	247	0.0283	0.0600	15
56	23	247	0.0931	0.0600	15
57	10	255	0.0392	0.0600	15
58	23	232	0.0991	0.0600	14
59	16	198	0.0808	0.0600	12
60	24	196	0.1224	0.0700	14
61	15	152	0.0987	0.0750	11
62	21	134	0.1567	0.1400	19
63	29	129	0.2248	0.1400	18
64	21	96	0.2188	0.1600	15
<b>Totals</b>	<b>189</b>	<b>1,886</b>	<b>0.1002</b>	<b>0.0785</b>	<b>148</b>

**PROTECTIVE WITH SOCIAL SECURITY  
NORMAL RETIREMENT EXPERIENCE  
DURING CALENDAR YEAR 2011**

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**Male and Female Age-Based Retirement Experience**

<b>Age</b>	<b>Retirements</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Retirements</b>
50	18	315	0.0571	0.0750	24
51	40	344	0.1163	0.0800	28
52	44	301	0.1462	0.0850	26
53	78	299	0.2609	0.2800	84
54	107	419	0.2554	0.2000	84
55	78	356	0.2191	0.1700	61
56	67	299	0.2241	0.1700	51
57	56	249	0.2249	0.1700	42
58	47	197	0.2386	0.1700	33
59	44	187	0.2353	0.1700	32
60	31	156	0.1987	0.1700	27
61	42	117	0.3590	0.2000	23
62	34	92	0.3696	0.2000	18
63	22	57	0.3860	0.3000	17
64	22	49	0.4490	0.1800	9
65	21	43	0.4884	0.3000	13
66	15	23	0.6522	0.3000	7
67	3	10	0.3000	0.2300	2
68	1	5	0.2000	0.2300	1
69	1	1	1.0000	0.2000	-
70	2	5	0.4000	1.0000	5
71	-	2	0.0000	1.0000	2
72	1	4	0.2500	1.0000	4
73	1	-	N/A	1.0000	-
74	-	-	N/A	1.0000	-
Totals	775	3,530	0.2195	0.1680	593
75 & Over	-	1			1
Totals	775	3,531			594

**PROTECTIVE WITHOUT SOCIAL SECURITY  
NORMAL RETIREMENT EXPERIENCE  
DURING CALENDAR YEAR 2011**

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**Male and Female Age-Based Retirement Experience**

<b>Age</b>	<b>Retirements</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Retirements</b>
50	3	75	0.0400	0.0350	3
51	2	79	0.0253	0.0350	3
52	4	70	0.0571	0.0600	4
53	13	67	0.1940	0.2300	15
54	17	78	0.2179	0.2800	22
55	13	51	0.2549	0.2800	14
56	9	49	0.1837	0.2800	14
57	5	35	0.1429	0.3700	13
58	8	30	0.2667	0.3200	10
59	4	17	0.2353	0.3500	6
60	4	11	0.3636	0.2200	2
61	2	7	0.2857	0.1500	1
62	-	-	N/A	0.2000	-
63	2	2	1.0000	0.2000	-
64	1	6	0.1667	0.2000	1
65	1	1	1.0000	0.4000	-
66	1	1	1.0000	0.4000	-
67	-	-	N/A	0.4000	-
68	-	-	N/A	0.4000	-
69	-	-	N/A	0.4000	-
70	-	-	N/A	1.0000	-
71	-	-	N/A	1.0000	-
72	-	-	N/A	1.0000	-
73	-	-	N/A	1.0000	-
74	-	-	N/A	1.0000	-
Totals	89	579	0.1537	0.1865	108
75 & Over	-	-	N/A		-
Totals	89	579			108

**EXECUTIVE AND ELECTED  
NORMAL RETIREMENT EXPERIENCE  
DURING CALENDAR YEAR 2011**

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**Male and Female Age-Based Retirement Experience**

<b>Age</b>	<b>Retirements</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Retirements</b>
57	2	15	0.1333	0.1700	3
58	2	12	0.1667	0.1700	2
59	4	10	0.4000	0.1700	2
60	4	13	0.3077	0.1100	1
61	3	12	0.2500	0.1100	1
62	8	44	0.1818	0.1100	5
63	8	44	0.1818	0.1100	5
64	5	40	0.1250	0.0800	3
65	8	37	0.2162	0.0800	3
66	8	24	0.3333	0.2000	5
67	6	22	0.2727	0.1700	4
68	4	18	0.2222	0.1700	3
69	4	12	0.3333	0.1700	2
70	1	12	0.0833	0.1500	2
71	1	8	0.1250	0.1500	1
72	2	7	0.2857	0.1500	1
73	2	4	0.5000	0.1000	-
74	2	4	0.5000	0.1000	-
Totals	74	338	0.2189	0.1272	43
75 & Over	6	23			23
Totals	80	361			66

**EXECUTIVE AND ELECTED  
EARLY RETIREMENT EXPERIENCE  
DURING CALENDAR YEAR 2011**

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**Male and Female Age-Based Early Retirement Experience**

<b>Age</b>	<b>Retirements</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Retirements</b>
55	2	41	0.0488	0.0550	2
56	4	41	0.0976	0.0550	2
57	3	43	0.0698	0.0550	2
58	3	26	0.1154	0.0550	1
59	2	40	0.0500	0.0550	2
60	6	49	0.1224	0.0550	3
61	2	39	0.0513	0.0550	2
62	-	7	0.0000	0.0550	-
63	-	7	0.0000	0.0550	-
64	-	11	0.0000	0.0550	1
Over 64	-	75	0.0000		
<b>Totals</b>	<b>22</b>	<b>379</b>			<b>15</b>

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**SECTION E**

**MORTALITY EXPERIENCE**

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**DEATH-IN-SERVICE  
DURING CALENDAR YEAR 2011**

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**Male**

<b>Age</b>	<b>Deaths</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Deaths</b>
Under 20	-	23	0.0000	0.0002	-
20-24	1	1,502	0.0007	0.0003	-
25-29	2	6,578	0.0003	0.0003	2
30-34	7	9,753	0.0007	0.0004	4
35-39	1	11,112	0.0001	0.0004	5
40-44	12	13,457	0.0009	0.0006	8
45-49	14	14,261	0.0010	0.0009	12
50-54	31	15,720	0.0020	0.0015	24
55-59	39	14,488	0.0027	0.0025	36
60-64	23	8,858	0.0026	0.0033	30
65-69	13	2,718	0.0048	0.0059	16
70-74	12	733	0.0164	0.0100	7
75 and over	2	3	0.6667	0.0193	-
<b>Totals</b>	<b>157</b>	<b>99,206</b>	<b>0.0016</b>	<b>0.0015</b>	<b>144</b>

**Female**

<b>Age</b>	<b>Deaths</b>	<b>Exposure</b>	<b>Crude Rates</b>	<b>Current Rates</b>	<b>Expected Deaths</b>
Under 20	-	50	0.0000	0.0001	-
20-24	2	2,359	0.0008	0.0001	-
25-29	2	11,694	0.0002	0.0001	1
30-34	-	15,998	0.0000	0.0002	3
35-39	7	16,699	0.0004	0.0002	4
40-44	9	20,952	0.0004	0.0003	7
45-49	15	24,287	0.0006	0.0005	12
50-54	24	27,449	0.0009	0.0008	22
55-59	44	25,120	0.0018	0.0017	43
60-64	25	14,956	0.0017	0.0025	38
65-69	14	3,745	0.0037	0.0038	14
70-74	2	806	0.0025	0.0068	5
75 and over	5	-	N/A	0.0122	-
<b>Totals</b>	<b>149</b>	<b>164,115</b>	<b>0.0009</b>	<b>0.0009</b>	<b>149</b>



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**SECTION F**

**ACTIVE PARTICIPANTS IN 12/31/2011  
VALUATIONS**

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**ACTIVE PARTICIPANTS AS OF DECEMBER 31, 2011**  
**GENERAL PARTICIPANTS**  
**BY ATTAINED AGE AND YEARS OF SERVICE**

Attained Ages	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
15-19	136							136	\$ 2,361,318
20-24	4,439	23						4,462	112,749,173
25-29	14,519	2,086	18					16,623	584,381,313
30-34	10,257	10,443	2,047	14				22,761	981,336,857
35-39	7,673	6,599	9,152	1,065	8			24,497	1,179,754,642
40-44	8,118	5,882	7,690	6,988	1,277	21		29,976	1,493,504,674
45-49	7,833	6,204	6,931	5,751	6,348	1,220	42	34,329	1,689,362,318
50-54	6,664	6,488	7,344	5,505	6,131	5,124	2,153	39,409	1,951,445,149
55	1,155	1,099	1,421	1,114	1,204	970	1,148	8,111	406,248,485
56	956	971	1,240	1,017	1,026	850	1,015	7,075	357,645,993
57	935	910	1,303	1,041	1,009	731	1,002	6,931	351,713,933
58	900	815	1,092	984	931	742	801	6,265	316,101,778
59	761	778	1,034	925	872	600	776	5,746	288,179,289
60	723	689	980	872	834	551	710	5,359	270,526,773
61	676	586	802	722	722	482	633	4,623	223,943,840
62	502	554	640	592	573	369	533	3,763	188,828,957
63	451	418	519	484	446	313	350	2,981	145,223,313
64	409	330	433	354	377	234	299	2,436	115,443,809
65	353	322	329	305	281	190	265	2,045	97,568,359
66	229	152	199	134	145	93	132	1,084	50,059,715
67	234	131	140	98	103	58	88	852	35,528,690
68	173	108	101	54	63	41	79	619	24,994,104
69	173	86	88	66	40	40	63	556	22,661,576
70	141	65	47	36	33	18	44	384	14,350,817
71	104	43	44	35	21	8	21	276	9,134,695
72	104	30	34	16	20	7	25	236	7,701,473
73	79	28	23	16	12	6	22	186	6,242,002
74	69	39	19	14	11	6	15	173	4,937,957
75 & Up	288	141	70	33	26	18	48	624	15,063,112
<b>Totals</b>	<b>69,054</b>	<b>46,020</b>	<b>43,740</b>	<b>28,235</b>	<b>22,513</b>	<b>12,692</b>	<b>10,264</b>	<b>232,518</b>	<b>\$10,946,994,114</b>

**ACTIVE PARTICIPANTS AS OF DECEMBER 31, 2011**  
**PROTECTIVE PARTICIPANTS WITH SOCIAL SECURITY**  
**BY ATTAINED AGE AND YEARS OF SERVICE**

Attained Ages	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
15-19	4							4	\$ 67,102
20-24	492	13						505	17,243,758
25-29	1,677	624	20					2,321	106,607,678
30-34	776	1,459	757	5				2,997	155,957,434
35-39	396	672	1,694	414	1			3,177	181,322,534
40-44	252	417	1,075	1,511	418	3		3,676	221,171,871
45-49	158	256	507	718	1,058	303	4	3,004	190,914,448
50	42	40	71	94	156	139	18	560	35,614,770
51	24	43	70	81	103	175	28	524	34,266,886
52	20	31	57	79	93	128	49	457	30,435,240
53	20	48	54	67	86	107	56	438	28,706,003
54	21	32	44	46	77	79	61	360	23,304,436
55	19	30	48	37	49	57	56	296	18,236,156
56	23	25	38	52	44	48	40	270	15,943,266
57	12	27	30	40	42	36	47	234	14,458,890
58	7	19	24	26	33	28	30	167	10,136,227
59	10	13	30	33	21	23	24	154	8,999,627
60	8	15	21	19	23	27	18	131	7,562,462
61	4	16	29	14	17	13	21	114	6,664,225
62	8	9	10	9	7	8	9	60	3,138,569
63	4	8	11	8	12	6	5	54	2,906,919
64	4	4	6	2	5	3	6	30	1,726,511
65	4	4	6	3	7	3	3	30	1,653,967
66	1	2	3	5	2		1	14	715,739
67	1		4	2	1		1	9	464,677
68	1			1				2	46,055
69	2		1	1			1	5	278,268
70 & Up	7	2	4	4				17	504,642
<b>Totals</b>	<b>3,997</b>	<b>3,809</b>	<b>4,614</b>	<b>3,271</b>	<b>2,255</b>	<b>1,186</b>	<b>478</b>	<b>19,610</b>	<b>\$1,119,048,360</b>

**ACTIVE PARTICIPANTS AS OF DECEMBER 31, 2011**  
**PROTECTIVE PARTICIPANTS WITHOUT SOCIAL SECURITY**  
**BY ATTAINED AGE AND YEARS OF SERVICE**

Attained Ages	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
20-24	47	1						48	\$ 2,190,009
25-29	182	66						248	14,036,613
30-34	120	179	78					377	23,509,734
35-39	43	95	250	47				435	29,483,099
40-44	15	60	179	198	66			518	36,797,434
45-49	6	18	70	138	195	47		474	35,041,770
50	1	2	13	14	36	36	3	105	8,320,028
51		3	4	15	20	42	8	92	7,148,311
52	1		8	17	28	29	12	95	7,497,920
53	1	1	5	7	25	24	15	78	6,177,676
54		1	1	5	21	22	12	62	4,849,698
55	2		1	8	18	13	10	52	4,049,921
56					12	10	2	24	1,911,915
57				5	15	10	8	38	3,084,945
58		2	1	4	8	8	6	29	2,296,324
59				1	3	4	4	12	972,512
60				1	3	4	2	10	813,202
61			1	1	3	2	1	8	755,975
62							1	1	117,627
63									
64		1				1	1	3	286,973
65			1			1		2	151,913
<b>Totals</b>	<b>418</b>	<b>429</b>	<b>612</b>	<b>461</b>	<b>453</b>	<b>253</b>	<b>85</b>	<b>2,711</b>	<b>\$189,493,599</b>

**ACTIVE PARTICIPANTS AS OF DECEMBER 31, 2011**  
**ELECTIVE AND ELECTED OFFICIALS**  
**BY ATTAINED AGE AND YEARS OF SERVICE**

Attained Ages	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
20-24	1							1	\$ 16,000
25-29	10	1						11	435,350
30-34	20	4	1					25	1,198,933
35-39	33	27	12	1				73	4,472,435
40-44	52	24	23	21	2			122	7,626,971
45-49	48	27	29	24	15	5		148	11,004,931
50-54	75	26	29	35	41	23	15	244	18,326,017
55	5	4	6	6	6	11	10	48	3,553,665
56	12	5	6	7	6	7	7	50	4,296,101
57	18	5	4	6	8	2	13	56	3,562,293
58	23	11	6	8	5	8	10	71	4,985,028
59	15	5	2	7	6	7	8	50	4,061,894
60	18	6	9	7	7	14	12	73	5,637,594
61	8	7	5	10	9	8	9	56	5,079,752
62	13	9	7	6	10	8	2	55	4,030,648
63	8	3	6	4	3	8	8	40	3,523,239
64	14	9	3	7	3	3	9	48	3,759,530
65	6	10	7	2	2	9	8	44	3,743,311
66	8	4	2	4	4	3	3	28	1,818,497
67	10	1	2	5		2	3	23	1,662,068
68	4	2	4	1	5		3	19	1,437,650
69	12	4	2		2	1	1	22	1,028,796
70	2	1		3	1			7	446,659
71	6	2	1	2	3	1	5	20	1,251,821
72	5	1		1			2	9	304,973
73	11	1	1					13	191,675
74	2			1			1	4	239,542
75 & Up	19	6	1	3		2	2	33	932,382
<b>Totals</b>	<b>458</b>	<b>205</b>	<b>168</b>	<b>171</b>	<b>138</b>	<b>122</b>	<b>131</b>	<b>1,393</b>	<b>\$98,627,755</b>

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**APPENDIX**

**ACTUARIAL METHODS**

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## ACTUARIAL VALUATION METHOD

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The actuarial funding method prescribed in the statute for WRS is the **Frozen Initial Liability Method**. Under this method, the amount of remaining unfunded accrued actuarial 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 - a period of approximately 13 years. Hence, the computed normal cost is made up of two parts:

- The pure entry-age normal cost (EANC) determined without regard to past gains or losses, and
- an experience amortization component.

Section 40.04(1) of the Wisconsin Statutes provides authority to maintain accounts and reserves determined to be “useful in achieving the funds’ purposes - -”. A fundamental WRS objective is stable contribution rates. Accordingly, based on the authority granted under Section 40.04, the experience portion of the normal cost is separately calculated each year and the amortization period is varied upward or downward in order to minimize short-term rate fluctuations.

## ASSET VALUATION METHOD

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An essential step in the valuation process is comparing valuation assets with computed liabilities. Computed liabilities result from actuarial calculations involving the covered population, the benefits, and actuarial assumptions. Valuation assets are those assets that are recognized and available to fund the System's liabilities. WRS assets are invested in the Core Investment Trust, and in the Variable Investment Trust, both of which are managed by the State of Wisconsin Investment Board (SWIB). Assets in the Variable Investment Trust are marked to market each year. Assets in the Core Investment Trust (most of the assets) are valued (or recognized) using an "asset valuation method".

Asset valuation methods are distinguished by the timing of the recognition of investment return. Total investment return is the sum of ordinary income and capital value changes. Under a pure market value approach, ordinary investment income and all capital value changes are recognized immediately. Because of market volatility, use of pure market values in retirement funding can result in volatile contribution rates and unstable financial ratios, contrary to WRS objectives.

The asset valuation method used for WRS valuations is statutory, and is referred to as the "Market Recognition Account" or MRA. Act 11 of 1999 closed the former Transaction Amortization Account (TAA) and created the Market Recognition Account. The MRA recognizes assumed return fully each year. Differences between actual and assumed return 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. Some retirement systems set limits on the amount by which the recognized value of assets can differ from the market value.



## DEVELOPMENT OF EAR AS OF DECEMBER 31, 2011

	General	Executive & Elected Officials	Protective Occupation		Total
			With Soc. Sec	Without Soc. Sec.	
<b>\$ Millions</b>					
1. Present Value of Future Benefits for Non-Retired	\$44,984.7	\$361.3	\$5,430.3	\$1,248.1	\$52,024.4
2. Present Value of Future Entry Age Normal Costs	13,869.7	87.8	1,855.3	376.4	16,189.2
3. Entry Age Accrued Liability: (1)-(2)	31,115.0	273.5	3,575.0	871.7	35,835.2
4. Non-Retired Assets-WRS	30,469.9	238.3	3,506.5	903.1	35,117.8
-LTDI	54.6	0.5	15.8	2.4	73.3
-Total	30,524.5	238.8	3,522.3	905.5	35,191.1
5. Entry Age Unfunded Accrued Liability: (3)-(4)	590.5	34.7	52.7	(33.8)	644.1
6. WRS Frozen Unfunded Accrued Liability	91.2	0.3	1.3	6.5	99.3
<b>7. EAR:(6)-(5)</b>	<b>\$(499.3)</b>	<b>\$(34.4)</b>	<b>\$(51.4)</b>	<b>\$ 40.3</b>	<b>\$(544.8)</b>

**ACTUAL VS. EXPECTED CHANGES IN EXPERIENCE AMORTIZATION RESERVE (EAR) - CALENDAR YEAR 2011**  
**(\$ MILLIONS)**

	December 31, 2011				
	General	Executive & Elected	Protective		Total
			With S.S.	Without S.S.	
(1) Entry Age UAAL at start of year	\$ (416.1)	\$ 26.2	\$ (144.1)	\$ (88.5)	\$ (622.5)
(2) Normal cost from last valuation (Total)	1,436.1	13.1	190.2	41.7	1,681.1
(3) Actual contributions	1,373.0	13.6	170.0	32.1	1,588.7
(4) Interest	(27.7)	1.9	(9.6)	(6.0)	(41.4)
(5) Expected UAAL before changes: (1) + (2) - (3) + (4)	(380.7)	27.6	(133.5)	(84.9)	(571.5)
(6) Change in actuarial assumptions	0.0	0.0	0.0	0.0	0.0
(7) Other changes	(243.7)	(5.6)	(10.9)	2.5	(257.7)
(8) Expected UAAL after changes: (5) + (6) + (7)	(624.4)	22.0	(144.4)	(82.4)	(829.2)
(9) Actual Entry Age UAAL at end of year	590.5	34.7	52.7	(33.8)	644.1
<b>(10) Gain (loss): (8) - (9)</b>	<b>\$ (1,214.9)</b>	<b>\$ (12.7)</b>	<b>\$ (197.1)</b>	<b>\$ (48.6)</b>	<b>\$ (1,473.3)</b>

The gain loss analysis is intended to explain the financial effect of differences between actual and assumed experience in basic risk areas: Investment Income, Pay increases, retirement rates, turnover rates, etc. In order for the gain loss analysis to proceed, the change in the Entry Age Unfunded Actuarial Accrued Liabilities from one year to the next is analyzed to remove the effect of expected changes. The table above develops this year's gain or loss (line 10) which is added to the Experience Amortization Reserve (EAR). When the EAR increases "unexpectedly," this is favorable experience and downward pressure is exerted on contribution rates. Similarly, an unexpected decrease in the EAR is unfavorable experience and upward pressure is exerted on contribution rates. In addition to the gain or (loss) described in line 10, non-recurring changes in lines 6 and 7 also may affect contribution rates.

By measuring gains and losses each year and, to the extent possible, determining the "responsible" assumptions, insight is gained into how well the actuarial assumptions estimate WRS liabilities. Such information aids in understanding financial effects of emerging trends and is particularly useful during preparation of the WRS experience study.