

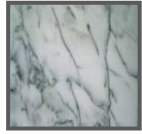
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# **Franklin Regional Retirement System**



**Actuarial Valuation  
January 1, 2012**





**S T O N E**  
**CONSULTING, INC.**

January 8, 2013

Franklin Regional Retirement Board  
278 Main Street, Suite 311  
Greenfield, MA 01301

Dear Franklin Regional Retirement Board:

Stone Consulting, Inc. has performed a January 1, 2012 actuarial valuation of the Franklin Regional Retirement System. This valuation and report was prepared using generally accepted actuarial principles and practices and meets the parameters set by the Governmental Accounting Standards Board Statement (GASB) No. 25. To the best of our knowledge, this report is complete and accurate, and the assumptions used represent our best estimate of anticipated experience of the system.

As part of performing the valuation, Stone Consulting, Inc. was furnished member data by the Franklin Regional Retirement System's administrative staff. Although examined for general reasonableness, the data was not audited by the actuary. In addition, the administrative staff furnished financial statements that were not audited by the actuary or by the plan's auditors.

The funding objective of the plan is to fully fund the system while attempting to maintain a stable contribution amount for the upcoming fiscal year that is consistent with prior funding schedules or if employer finances allow it, to increase the contribution amount. This funding objective is being met.

We anticipate over time the contribution level to remain relatively level as a percentage of payroll. The contribution rate is determined by adding the normal cost plus an amortization of the unfunded actuarial accrued liability. The normal cost is expected to remain at a level percentage of payroll. The number of years of the amortization and/or the rate of increase of the amortization is adjusted to

maintain a stable contribution level for the upcoming fiscal year. The length of the funding schedule contained in this actuarial valuation report is twenty-two years (fully funded by 2035) and the amortization increase is 4.00%. The amortization increase cannot exceed 4.00% annually. The maximum length of the amortization is until Fiscal 2040. These limits are contained in Section 22F of Chapter 32 of the Massachusetts General Laws. The Franklin Regional Retirement Board is relying on Section 22F.

The contribution amount for Fiscal Year 2014 is \$5,696,096 which is \$180,663 more than the anticipated contribution amount from the prior funding schedule. PERAC and GASB guidelines indicate that actuarial valuations should be conducted at least every other year. The Franklin Regional Retirement Board conducted their previous actuarial valuation effective January 1, 2010. This satisfies these guidelines.

The Franklin Regional Retirement Board has elected to increase the Cost-of-living base from \$13,000 to \$14,000. This is reflected in this valuation. It increased the unfunded actuarial accrued liability by approximately \$789,000.

We are pleased to present the results of this valuation. If the Retirement Board has any questions on the content of this report, we would be glad to respond. Please note that this report is meant to be used in its entirety. Use of excerpts of this report may result in inaccurate or misleading understanding of the results.

Respectfully submitted,  
*STONE CONSULTING, INC.*  
Actuaries for the Plan

Lawrence B. Stone  
Member, American Academy of Actuaries





# FRANKLIN REGIONAL RETIREMENT SYSTEM

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## FRANKLIN REGIONAL RETIREMENT SYSTEM

### INTRODUCTION

This report presents the results of the actuarial valuation of the Franklin Regional Retirement System. The valuation was performed at the request of the Retirement Board as of January 1, 2012 for the purpose of determining the contribution requirements for Fiscal Year 2014 and beyond. The contribution requirements are based on:

- The financial condition of the system as of December 31, 2011
- The benefit provisions of M.G.L. Chapter 32 and related statutes;
- The demographics of members in the system (i.e., active and inactive participants, retirees and beneficiaries as of January 1, 2012);
- Economic assumptions regarding salary increases and investment earnings; and
- Other actuarial assumptions (i.e., withdrawals, retirement, death, etc.)

### JANUARY 1, 2012 VALUATION SUMMARY

	January 1, 2012	January 1, 2010	Change
<b>Contribution Fiscal 2014</b>	\$5,676,096	\$5,495,433	\$180,663
<b>Funding Schedule Length</b>	22 years	17 years	5 years
<b>Amortization Increase</b>	4.00%	4.26%	-0.26%
<b>Funding Ratio</b>	63%	67%	-3%
<b>Interest Rate Assumption</b>	7.875%	7.875%	0.000%
<b>Salary Increase Rate Assumption</b>	4.25%	4.25%	0.00%

- The Fiscal Year 2014 contribution is \$180,663 more than the planned 2014 contribution. The System experienced a \$1.7 million net investment loss from the expected market value return since January 1, 2010 (the prior valuation date). Stone Consulting, with agreement from the Retirement Board, values assets using an asset smoothing technique. In this approach, asset gains and losses are recognized over a four-year period with a requirement



## FRANKLIN REGIONAL RETIREMENT SYSTEM

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that the actuarial value of assets be within 10% of the market value of assets. The purpose of this approach is to avoid wide swings in asset value from one valuation to the next.

The System experienced a 2.9% average return on the actuarial value of assets versus our assumption of a 7.875% return. The market value of assets experienced an average return of 7.25%. The System's asset portfolio, effective December 31, 2011 was approximately 72% equities, alternative investments and real estate and 28% fixed income and short-term investments. The interest rate assumption was maintained at 7.875% to reflect anticipated market performance.

- We have used a salary increase rate of 4.25% which is the same as used in the 2010 actuarial valuation. Total compensation changed by 2.0% over the prior valuation (two years), average annual compensation (compensation divided by number of active members) changed by 6.4%, (3.1% per year).
- The funding level of the Franklin Regional Retirement System is 63% (62% using market value of assets), compared to 67% for the January 1, 2010 actuarial valuation. The funding level is estimated to be in the top half of Massachusetts' Contributory Retirement Systems. Chapter 68 requires a minimum funding ratio of 65% along with additional criteria in order to avoid being labeled an "under performing system". If you are considered an "under performing system" the system's assets are required to be transferred to PRIT. Using an alternative interest rate of 8.25%, the funding level of the Franklin Regional System is 66%. This satisfies the Chapter 68 requirement.

The schedule length is twenty-two (22) years. The schedule's length is five years more than the remainder of the funding schedule from the prior valuation. The maximum permitted under Section 22F of Chapter 32 of the Massachusetts General Laws is 27 years. The amortization percentage was changed from 4.26% to 4.00%, while increasing the FY2014 contribution level from the prior valuation. The maximum amortization permitted under Section 22F of Chapter 32 is 4.00%. There are two early retirement incentive bases that are being amortized over (6) and (7) remaining years with a level amortization payment.

- Non-economic assumptions have been changed since the 2010 valuation. The mortality



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assumption was changed to the RP2000 mortality table projected 17 years with Scale AA, (previously a 10 year projection was used). This change increased the accrued liability by \$1.6 million.

- The Cola base was increased from \$13,000 to \$14,000. This increased the accrued liability by about \$789,000.



## FRANKLIN REGIONAL RETIREMENT SYSTEM

### JANUARY 1, 2012 ACTUARIAL VALUATION RESULTS

	January 1, 2012	January 1, 2010	Percentage Change
<b>Funding</b>			
• Contribution for Fiscal 2014	\$5,676,096		
• Contribution for Fiscal 2014 based on current schedule		\$5,495,433	3.3%
<b>Members *</b>			
• <i>Actives</i>			
a. Number	929	969	-4.1%
b. Annual Compensation	\$30,037,760	\$29,457,390	2.0%
c. Average Annual Compensation	\$32,333	\$30,400	6.4%
d. Average Attained Age	49.0	48.1	1.9%
e. Average Past Service	10.9	10.1	7.9%
• <i>Retired, Disabled and Beneficiaries</i>			
a. Number	476	442	7.7%
b. Total Benefits*	\$6,155,165	\$5,352,265	15.0%
c. Average Benefits*	\$12,931	\$12,109	6.8%
d. Average Age	72.1	71.9	0.3%
• <i>Inactives</i>			
a. Number	583	637	-8.5%
<b>Normal Cost</b>			
a. Total Normal Cost	\$3,834,669	\$3,701,044	3.6%
b. Less Expected Members' Contributions	<u>2,629,061</u>	<u>2,531,686</u>	3.8%
c. Normal Cost to be funded by the Units	\$1,205,608	\$1,169,358	3.1%
d. Eighteen month Adjustment	77,668	75,333	3.1%
e. Administrative Expense Assumption	<u>465,976</u>	<u>433,736</u>	7.4%
f. Adjusted Normal Cost	\$1,749,252	\$1,678,427	4.2%

\*Excluding State reimbursed COLA





## FRANKLIN REGIONAL RETIREMENT SYSTEM

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### SUMMARY OF JANUARY 1, 2012 VALUATION (Continued)

	January 1, 2012	January 1, 2010	Percentage Change
<b>Actuarial Accrued Liability as of January 1, 2012</b>			
a. Active Members	\$71,129,850	\$62,901,777	13.1%
b. Inactive Members	3,078,801	4,033,816	-23.7%
c. Retired Members and Beneficiaries	<u>61,114,543</u>	<u>52,413,657</u>	16.6%
d. Total	\$135,323,194	\$119,349,250	13.4%
<b>Unfunded Actuarial Accrued Liability</b>			
a. Actuarial Accrued Liability	\$135,323,194	\$119,349,250	13.4%
b. Less Actuarial Value of Assets	<u>85,648,257</u>	<u>79,458,638</u>	7.8%
c. Unfunded Actuarial Accrued Liability	\$49,674,937	\$39,890,612	24.5%
d. Eighteen month Adjustment	<u>\$ 2,863,368</u>	<u>\$2,006,396</u>	
e. Unfunded Actuarial Accrued Liability	\$52,538,305	\$41,897,008	



## FRANKLIN REGIONAL RETIREMENT SYSTEM

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### DEMOGRAPHIC INFORMATION

<b>Members</b>	<b>January 1, 2012</b>	<b>Percentage Change</b>
• <i>Actives</i>		
a. Number	929	-4.1%
b. Annual Compensation	\$30,037,760	2.0%
c. Average Annual Compensation	\$32,333	6.4%
d. Average Attained Age	49.0	1.9%
e. Average Past Service	10.9	7.9%
• <i>Retired, Disabled and Beneficiaries</i>		
a. Number	476	7.7%
b. Total Annual Retirement Allowance excluding State-reimbursed COLA	\$6,155,165	15.0%
• <i>Inactives</i>		
a. Number	583	-8.5%

- The data was supplied by the Franklin Regional Retirement Board. The data was checked under broad parameters of reasonableness. With the assistance of the staff of the Franklin Regional Retirement Board, we were able to develop a database sufficient for valuation purposes.
- Payroll changed by 2.0% over the course of the past two years. Average annual compensation changed by 6.4% over the same time period.
- The salary increase assumption includes general wage adjustments, step increases, and promotional increases.



## FRANKLIN REGIONAL RETIREMENT SYSTEM

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### *HISTORY OF ACTIVE PARTICIPANTS*

<b>Valuation Year</b>	<b>Number</b>	<b>Average Age</b>	<b>Average Past Service</b>	<b>Average Ann'l Compensation</b>
2012	929	49.0	10.9	\$32,333
2010	969	48.1	10.1	\$30,400
2008	1,227	47.7	9.3	\$24,696
2006	1,131	47.5	9.1	\$23,191
2003	1,155	46.1	7.4	\$17,923
2001	1,222	45.7	10.8	\$36,945
1999	1,163	45.5	7.2	\$15,806

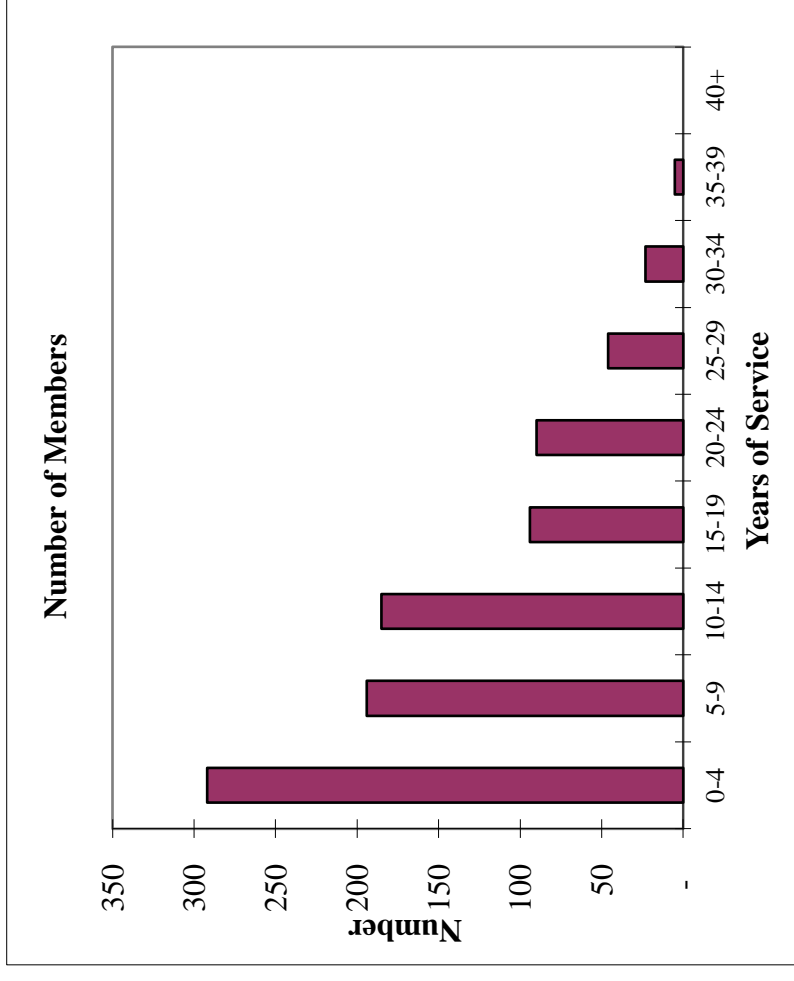
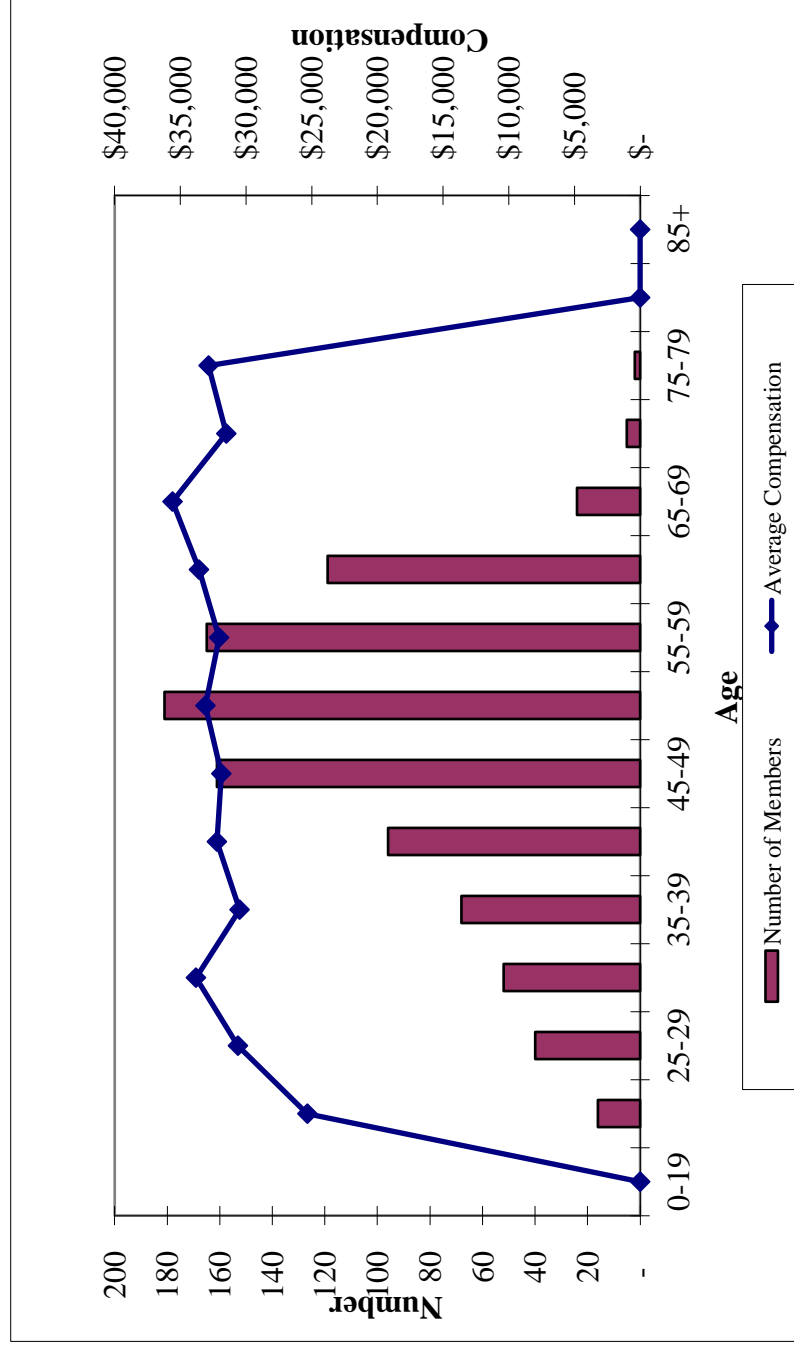
- Employee age has increased by 3.5 years and service has increased by 3.7 years over the course of the past thirteen years. Average annual compensation has grown by 104.5% over the same time period (5.7% per year). This increase is somewhat overstated due to the removal of firefighters from the valuation data of as well as other members who earn less than \$5,000 per year.

The charts on the following pages summarize demographic information regarding active and retiree members.



**FRANKLIN REGIONAL RETIREMENT SYSTEM**  
**Distribution of Plan Members as of January 1, 2012**  
**Active Members**

AGE	Years											Total		Average Compensation	
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total	Compensation	Average Compensation			
0-19	-	-	-	-	-	-	-	-	-	-	\$ -	\$ -			
20-24	16	-	-	-	-	-	-	-	-	16	405,261	25,329			
25-29	34	6	-	-	-	-	-	-	-	40	1,224,575	30,614			
30-34	27	19	6	-	-	-	-	-	-	52	1,758,195	33,811			
35-39	35	18	12	3	-	-	-	-	-	68	2,073,431	30,492			
40-44	46	20	20	8	2	-	-	-	-	96	3,092,761	32,216			
45-49	52	43	22	15	21	8	-	-	-	161	5,132,557	31,879			
50-54	39	38	49	27	16	10	2	-	-	181	5,989,217	33,090			
55-59	31	29	38	21	22	11	11	2	-	165	5,288,184	32,050			
60-64	8	18	29	14	25	15	8	2	-	119	3,996,142	33,581			
65-69	4	2	8	5	2	2	1	2	-	24	854,231	35,593			
70-74	-	-	1	1	2	-	-	1	-	5	157,506	31,501			
75-79	-	-	-	-	-	-	-	-	-	2	65,701	32,851			
80-84	-	-	-	-	-	-	-	-	-	-	-	-			
85+	-	-	-	-	-	-	-	-	-	-	-	-			
<b>TOTAL</b>	<b>292</b>	<b>194</b>	<b>185</b>	<b>94</b>	<b>90</b>	<b>46</b>	<b>23</b>	<b>5</b>	<b>-</b>	<b>929</b>	<b>\$ 30,037,760</b>	<b>\$ 32,333</b>			





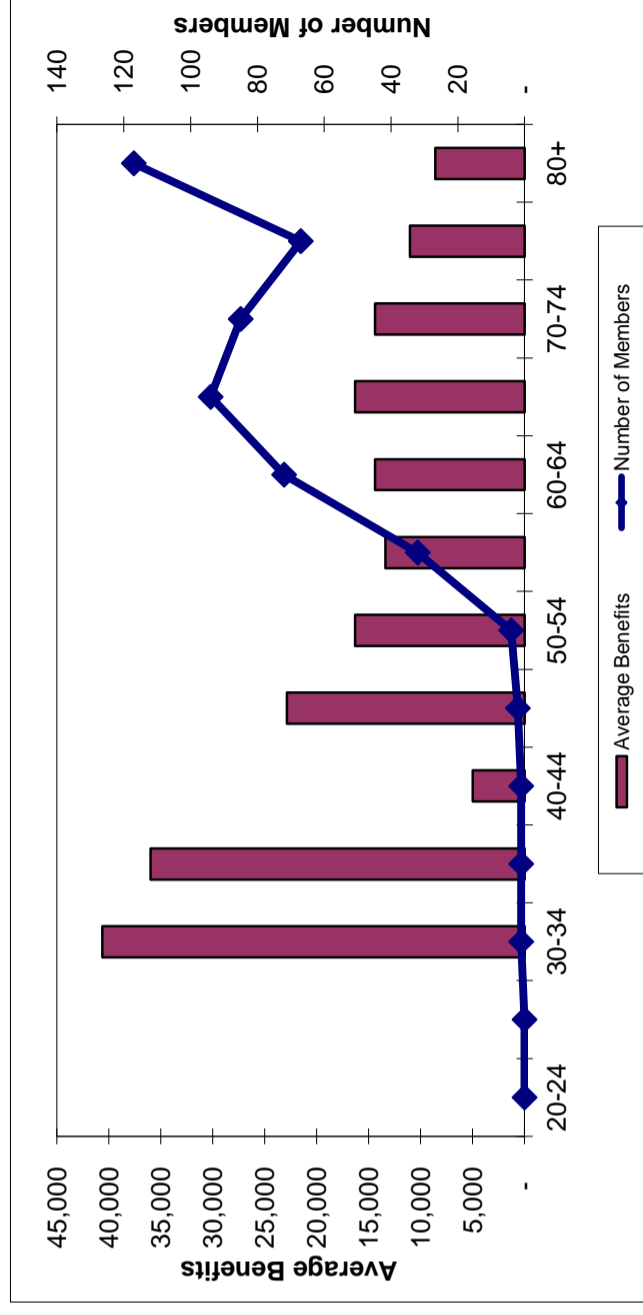
## FRANKLIN REGIONAL RETIREMENT SYSTEM

### Distribution of Plan Members as of January 1, 2012

#### Retired Members

Age	Disabled Member		Retired Members and Beneficiaries	
	Number	Average Benefit	Number	Average Benefit
20-24	-	-	-	-
25-29	-	-	-	-
30-34	1	40,634	-	-
35-39	1	35,989	-	-
40-44	-	-	1	4,988
45-49	2	22,863	-	-
50-54	2	25,950	2	6,701
55-59	5	17,466	27	12,649
60-64	1	28,181	71	14,188
65-69	2	19,652	92	16,233
70-74	-	-	85	14,375
75-79	2	15,405	65	10,886
80+	1	32,451	116	8,385
<b>TOTAL</b>	<b>17</b>	<b>\$ 23,078</b>	<b>459</b>	<b>\$ 12,555</b>
				<b>\$ 5,762,839</b>

Age	Total		Total Benefit
	Number	Average Benefit	
20-24	-	-	-
25-29	-	-	-
30-34	1	40,634	40,634
35-39	1	35,989	35,989
40-44	1	4,988	4,988
45-49	2	22,863	45,726
50-54	4	16,326	65,304
55-59	32	13,401	428,844
60-64	72	14,382	1,035,528
65-69	94	16,306	1,532,784
70-74	85	14,375	1,221,850
75-79	67	11,021	738,405
80+	117	8,591	1,005,114
<b>TOTAL</b>	<b>476</b>	<b>\$ 12,931</b>	<b>\$ 6,155,165</b>



Benefits shown are net of State reimbursed COLA.



STONE  
CONSULTING, INC.



## FRANKLIN REGIONAL RETIREMENT SYSTEM

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### VALUATION METHODOLOGY

Stone Consulting, Inc. used the Entry Age Normal actuarial funding method in this actuarial valuation. The use of the Entry Age Normal actuarial funding method is consistent with the requirements of Chapter 32 of the Massachusetts General Laws.

#### NORMAL COST

		<b>January 1, 2012</b>	<b>% of Payroll*</b>
Gross Normal Cost (GNC)	\$	3,834,669	12.8%
Employees Contribution		<u>2,629,061</u>	<u>8.8%</u>
Net Normal Cost (NNC)	\$	1,205,608	4.0%
Adjusted to Beginning of Fiscal Year 2014	\$	77,668	
Administrative Expense	\$	<u>465,976</u>	1.6%
Adjusted Net Normal Cost With Admin. Expense	\$	1,749,252	

\*Payroll paid in 2011 for employees as of January 1, 2012 is \$30,037,760. Payroll for new hires in 2011 was annualized.

- The gross normal cost (GNC) is the “price” of benefits accruing in the current year if the assumptions underlying the normal cost were realized.
- An individual normal cost represents that part of the cost of a member’s future benefits that are assigned to the current year as if the costs are to remain level as a percentage of the member’s pay. Benefits payable under all circumstances (i.e., retirement, death, disability, and terminations) are included in this calculation.
- Anticipated employee contributions to be made during the year are subtracted from the GNC to determine employer normal cost, or net normal cost (NNC).
- Administrative expenses are added to the NNC. The administrative expense does not include investment manager and custodial fees. These fees are considered part of the interest rate assumption that is net of fees.



## FRANKLIN REGIONAL RETIREMENT SYSTEM

### ACTUARIAL ACCRUED LIABILITY AND FUNDED STATUS

		January 1, 2012	Percentage Change
<b>Active Actuarial Accrued Liability</b>		\$ 71,129,850	13.1%
Superannuation	\$ 61,850,910		
Death	\$ 1,739,571		
Disability	\$ 5,006,094		
Termination	\$ 2,533,275		
<b>Retiree, Inactive, Survivor and Beneficiary Actuarial Accrued Liability</b>		<u>64,193,344</u>	13.7%
Retirees and Beneficiaries	\$ 56,271,771		
Disabled	\$ 4,842,772		
Inactive	\$ 3,078,801		
<b>Total Actuarial Accrued Liability (AAL)</b>		\$ <u>135,323,194</u>	13.4%
<b>Actuarial Value of Assets (AVA)</b>		\$ <u>85,648,257</u>	7.8%
<b>Unfunded Actuarial Accrued Liability</b>		\$ 49,674,937	24.5%
<b>Funded Ratio (AVA / AAL)</b>			
2012 (7.875% interest rate):	63%		
2010 (7.875% interest rate):	67%		

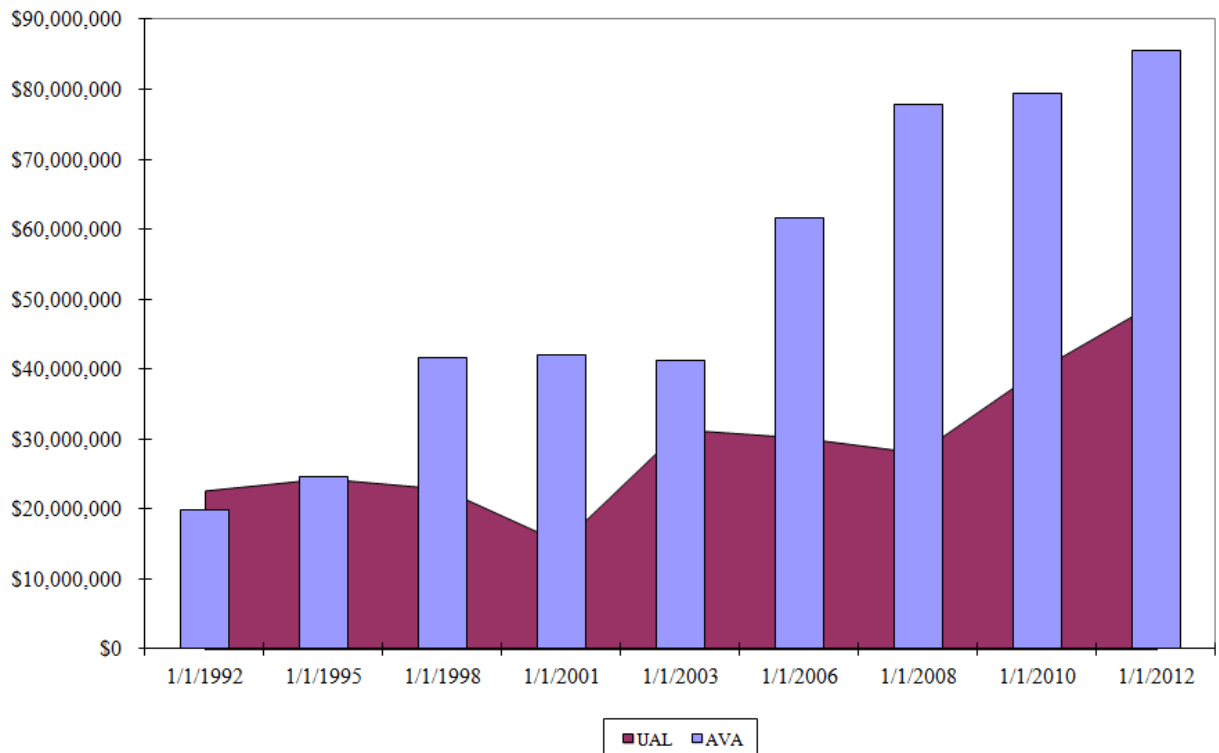
- Actuarial Accrued Liability (AAL) is the “price” of benefits attributable to benefits earned in past years, or in other words, represents today’s value of all benefits earned by active and inactive members.
- The total AAL is \$135,323,194. This along with an actuarial value of assets of \$85,648,257 produces a funded status of 63% (62% on market value). This compares to a funded status of 67% for the 2010 valuation.

The chart on the following page is a history of the unfunded actuarial accrued liability (UAL) and the valuation assets (AVA) over the course of the past nine actuarial valuations.



## FRANKLIN REGIONAL RETIREMENT SYSTEM

### HISTORY OF ACTUARIAL VALUATION OF ASSETS (AVA) AND UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAL)



#### Alternative Assumption – Chapter 68, Acts of 2007

Using an 8.25% interest rate and otherwise using the remainder of the actuarial assumptions and methodologies in this report, the funding ratio is 66%. Note that this calculation is only for use in meeting the chapter 68 criteria of a greater than 65% funding ratio.

Actuarial Accrued Liability	\$130,172,856
Actuarial Value of Assets	\$85,648,257
Funding Ratio	63%





## FRANKLIN REGIONAL RETIREMENT SYSTEM

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### DEVELOPMENT OF FUNDING SCHEDULE

Net Employer Normal Cost for Fiscal 2014	\$	1,749,252
Net 3(8)(c) Payments		286,000
Amortization		<u>3,535,291</u>
Total Appropriation	\$	5,570,543
Adjustment for semi-annual payments		<u>105,553</u>
Total Appropriation required for Fiscal 2014	\$	5,676,096

- The funding schedule is composed of the normal cost, the amortization of the actuarial accrued unfunded liability plus the net difference between 3(8)(c) payments and is adjusted by the administrative expense assumption. The contribution is assumed to be made semi-annually.

The 3(8)(c) payments are made to and from other Chapter 32 retirement systems and Franklin Retirement System to account for members prior service with retirement systems other than the one from which they retire. The net 3(8)(c) amount increased by about \$12,000 since the past valuation.

- The contribution amount for Fiscal 2014 is \$5,676,096. The funding schedule is presented on page 15. The schedule's length is twenty-two (22) years (for the fresh start base) which is five years longer than the January 1, 2010 valuation schedule's length.
- In developing the funding schedule, we used a fresh start approach in which the unfunded actuarial accrued liability, other than the liability associated with the early retirement incentives, is reamortized instead of maintaining the existing amortization amount and separately amortizing the actuarial gain or loss. The use of a fresh-start approach results in a funding schedule in which the changes in contribution amounts from year to year are more consistent. The amortization percentage changed from 4.26% from the January 1, 2010 valuation to 4.00%. The change in amortization increase is due to section 22F which requires an amortization increase of 4.00% or less.



## FRANKLIN REGIONAL RETIREMENT SYSTEM

### FUNDING SCHEDULE

Fiscal Year	Normal Cost	Unfunded Liability	Funding Amortization of UAL	Net 3(8)(c) Payments	Schedule Contribution	Adjusted for Semiannual Payments
2014	1,749,252	52,538,305	3,535,291	286,000	5,570,543	5,676,096
2015	1,823,595	52,862,001	3,669,397	286,000	5,778,992	5,888,495
2016	1,901,098	53,066,522	3,808,867	286,000	5,995,965	6,109,580
2017	1,981,895	53,136,695	3,953,917	286,000	6,221,811	6,339,705
2018	2,066,125	53,055,922	4,104,768	286,000	6,456,893	6,579,241
2019	2,153,936	52,806,057	4,261,653	286,000	6,701,589	6,828,573
2020	2,245,478	52,367,276	4,284,331	286,000	6,815,808	6,944,958
2021	2,340,911	51,869,478	4,411,863	286,000	7,038,773	7,172,147
2022	2,440,399	51,194,902	4,588,337	286,000	7,314,736	7,453,339
2023	2,544,116	50,276,832	4,771,871	286,000	7,601,987	7,746,033
2024	2,652,241	49,088,477	4,962,745	286,000	7,900,987	8,050,698
2025	2,764,961	47,600,633	5,161,255	286,000	8,212,217	8,367,826
2026	2,882,472	45,781,479	5,367,705	286,000	8,536,178	8,697,925
2027	3,004,977	43,596,358	5,582,414	286,000	8,873,391	9,041,528
2028	3,132,689	41,007,542	5,805,710	286,000	9,224,399	9,399,187
2029	3,265,828	37,973,977	6,037,939	286,000	9,589,767	9,771,478
2030	3,404,626	34,451,001	6,279,456	286,000	9,970,082	10,159,000
2031	3,549,322	30,390,054	6,530,634	286,000	10,365,957	10,562,376
2032	3,700,169	25,738,349	6,791,860	286,000	10,778,028	10,982,256
2033	3,857,426	20,438,525	7,063,534	286,000	11,206,960	11,419,315
2034	4,021,366	14,428,271	7,346,076	286,000	11,653,442	11,874,257
2035	4,192,275	7,639,919	7,639,919	286,000	12,118,193	12,347,814
2036	4,370,446	0	-	286,000	4,656,446	4,744,679

#### Amortization of Unfunded Liability as of July 1, 2013

Year	Type	Original Amort. Amount	Percentage Increasing	Original # of Years	Current Amort. Amount	Years Remaining
2005	ERI	140,483	0.00%	15	140,483	6
2006	ERI	42,155	0.00%	15	42,155	7
2014	Fresh Start	3,352,653	4.00%	22	3,352,653	22

**Year is the year the amortization base was established.**

**Type is the reason for the creation of the base. Examples are Gain/(Loss) or Fresh Start.**

**Original Amortization Amount is the annual amortization amount when the base was established.**

**Percentage Increasing is the percentage that the Original Amortization Amount increases per year.**

**Original # of Years is the number of years over which the base is being amortized.**

**Current Amortization Amount is the amortization payment amount for this year.**

**Years Remaining is the number of years left to amortize the base.**



## FRANKLIN REGIONAL RETIREMENT SYSTEM

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### ASSUMPTIONS AND METHODOLOGY SUMMARY

The principal actuarial assumptions used in this valuation are the same as the assumptions used in the previous valuation, except where noted, and are summarized in the following table:

<u>Assumption</u>	<u>January 1, 2012 Valuation</u>
Interest Rate	7.875% <i>(same as prior valuation)</i>
Salary Increase	4.25% <i>(same as prior valuation)</i>
COLA	3% of \$14,000 (\$13,000 prior valuation)
COLA Frequency	Granted every year
Mortality	RP-2000 table projected 17 years with Scale AA. For members retired under an Accidental Disability (job-related), 40% of deaths are assumed to be from the same cause as the disability. Disabled mortality RP-2000 table projected 17 years, ages set forward 2 years. <i>(Prior valuation used RP2000 with 10 year projection)</i>
Overall Disability	<u>Groups 1 and 2</u> 45% ordinary disability 55% accidental disability  <u>Group 4</u> 10% ordinary disability 90% accidental disability
Retirement Rates	<u>Groups 1 and 2</u> Ages 55 – 70 <u>Group 4</u> Ages 50 – 65
Administrative Expense	\$465,976 budget estimated for FY 2014 provided by Franklin Regional Retirement Board.
Asset Valuation Methodology	Four Year Asset Smoothing



## FRANKLIN REGIONAL RETIREMENT SYSTEM

### ASSETS

a.	Cash	\$	844,585.01
b.	Equities		11,713,011.94
c.	Pooled Domestic Equity Funds		7,338,112.72
d.	Pooled Domestic Fixed Income Funds		10,748,026.51
e.	Pooled Real Estate Funds		3,615,753.89
f.	PRIT Fund		50,125,034.05
g.	Prepaid Expenses		4,349.38
h.	Sub-Total:	\$	84,388,873.50
i.	Interest Due and Accrued		45.89
j.	Accounts Receivable	\$	370,870.70
k.	Accounts Payable		(212,402.83)
l.	Sub-Total:	\$	158,513.76
m.	Market Value of Assets [(h) + (l)]	\$	84,547,387.26

- We were furnished with the System's annual report by the Board. The market value of assets as of December 31, 2011 (adjusted for interest due and accrued, payables and receivables) is \$84,547,387.26.
- The asset allocation as of December 31, 2011 is approximately 1% cash, receivables, payables and short-term investments, 27% fixed income, and 72% equities, alternative investments, and real estate.
- Historically, 10 to 11% has been the expected long-term rate of return for equities, and 6 to 7% has been the expected long-term rate of return for fixed income securities. Many economists and investment professionals are projecting lower returns of 6.25 to 9.00% for equities and 3.65 to 6.00% for fixed income securities. In light of these projections, as well as historical investment returns, the 7.875% interest rate assumption is within the reasonable assumption range. We encourage close monitoring for changes in investment performance against expectations.



## FRANKLIN REGIONAL RETIREMENT SYSTEM

### CALCULATION OF VALUATION ASSETS as of January 1, 2012 4-Year Phase-In of Asset Gains and Losses

1.	Market value of assets including receivable/payable as of January 1, 2012	\$84,547,387																									
2.	Phase-in of asset gains and losses																										
	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;"></th> <th style="width: 30%; text-align: center;">Plan Year (1)</th> <th style="width: 20%; text-align: center;">Original Amount (2)</th> <th style="width: 20%; text-align: center;">Percent Unrecognized (3)</th> <th style="width: 20%; text-align: center;">Amount Unrecognized (2) x (3)</th> </tr> </thead> <tbody> <tr> <td>a.</td> <td>2011</td> <td style="text-align: right;">(\$6,653,093)</td> <td style="text-align: center;">75%</td> <td style="text-align: right;">(\$4,989,820)</td> </tr> <tr> <td>b.</td> <td>2010</td> <td style="text-align: right;">\$4,973,855</td> <td style="text-align: center;">50%</td> <td style="text-align: right;">\$2,486,927</td> </tr> <tr> <td>c.</td> <td>2009</td> <td style="text-align: right;">\$5,608,092</td> <td style="text-align: center;">25%</td> <td style="text-align: right;">\$1,402,023</td> </tr> <tr> <td>d.</td> <td>Total</td> <td></td> <td></td> <td style="text-align: right; border-top: 1px solid black;">(\$1,100,870)</td> </tr> </tbody> </table>		Plan Year (1)	Original Amount (2)	Percent Unrecognized (3)	Amount Unrecognized (2) x (3)	a.	2011	(\$6,653,093)	75%	(\$4,989,820)	b.	2010	\$4,973,855	50%	\$2,486,927	c.	2009	\$5,608,092	25%	\$1,402,023	d.	Total			(\$1,100,870)	
	Plan Year (1)	Original Amount (2)	Percent Unrecognized (3)	Amount Unrecognized (2) x (3)																							
a.	2011	(\$6,653,093)	75%	(\$4,989,820)																							
b.	2010	\$4,973,855	50%	\$2,486,927																							
c.	2009	\$5,608,092	25%	\$1,402,023																							
d.	Total			(\$1,100,870)																							
3.	Valuation assets without corridor as of January 1, 2012 (1. - 2.d.)	\$85,648,257																									
4.	Corridor Check																										
	a. 90% of Market Value	\$76,092,649																									
	b. 110% of Market Value	\$93,002,126																									
5.	Greater of 3. And 4.a.	\$85,648,257																									
6.	Lesser of 3. And 4.b.	\$85,648,257																									
7.	Valuation assets with corridor as of January 1, 2012 Lesser of 5. And 6.	\$85,648,257																									
8.	Calculation of return on valuation assets																										
	a. Valuation assets as of January 1, 2010	\$79,458,638																									
	b. ER contribs + EE contribs - Ben Pymts - Expenses	1,638,182																									
	c. Actual return on valuation assets 7. - (8.a. + 8.b.)	\$4,551,437																									
	d. Weighted value of valuation assets	\$78,250,323																									
	e. Return on valuation assets 8.c. / 8.d.	5.8%																									
	f. Annualized return on assets	2.9%																									



## FRANKLIN REGIONAL RETIREMENT SYSTEM

### DISCLOSURE INFORMATION UNDER GASB STATEMENT 25

*Schedules of Funding Progress*

(Dollars In Thousands)

Actuarial Valuation Date	Actuarial Value of Assets  A	Actuarial Accrued Liability  B	Unfunded AAL (UAAL)  B-A	Funded Ratio  A/B	Covered Payroll  C	UAAL as a % of Covered Payroll (B-A)/C
1/1/2012	\$85,648	\$135,323	\$49,675	63%	\$30,038	165%
1/1/2010	\$79,459	\$119,349	\$39,891	67%	\$29,457	135%
1/1/2008	\$77,859	\$105,972	\$28,113	73%	\$30,302	93%
1/1/2006	\$61,539	\$91,823	\$30,284	67%	\$26,229	115%
1/1/2003	\$41,299	\$72,770	\$31,471	57%	\$23,638	133%

*Notes to Schedules*

Additional information as of the latest actuarial valuation follows:

Valuation date	1/1/2012
Actuarial cost method	Entry Age Normal
Amortization method	Approximate level percent of payroll Closed
Remaining amortization period	22 years for the fresh start retirement benefits schedule; 9 years for the 2006 ERI; and 8 years for the 2005 ERI.
Asset valuation method	Market value adjusted by accounts payable and receivables adjusted to phase in over 4 years investment gains or losses above or below the expected rate of investment return. The actuarial value of assets must be no less than 90% of the adjusted market value nor more than 110% of the adjusted market value. Market value of assets is \$84,547,387.
Actuarial assumptions:	
Investment Rate of Return	7.875% per year
Projected Salary Increases	4.25% per year



## FRANKLIN REGIONAL RETIREMENT SYSTEM

### PERAC INFORMATION DISCLOSURE

The most recent actuarial valuation of the System was prepared by Stone Consulting, Inc. as of January 1, 2012  
 The normal cost for employees on that date was:                     \$2,629,061                     8.8% of payroll  
 The normal cost for the employer was:                                 \$1,205,608                     4.0% of payroll

The actuarial liability for active members was:                     \$71,129,850  
 The actuarial liability for retired members was (includes inactives):     \$64,193,344  
 Total actuarial accrued liability:   \$135,323,194  
 System assets as of that date:   85,648,257  
 Unfunded actuarial accrued liability:                                   \$49,674,937

The ratio of system's assets to total actuarial liability was:                     63%

As of that date the total covered employee payroll was:                     \$30,037,760

The principal actuarial assumptions used in the valuation are as follows:

Investment Return:                     7.875% per annum  
 Rate of Salary Increase:             4.25% per annum

#### SCHEDULE OF FUNDING PROGRESS (Dollars in \$000's)

Actuarial Valuation Date	Value of Assets (a)	Actuarial Liability (AAL) (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAAL as a % of Covered Payroll ((b-a)/c)
1/1/2012	\$85,648	\$135,323	\$49,675	63%	\$30,038	165%
1/1//2010	\$79,459	\$119,349	\$39,891	67%	\$29,457	135%
1/1/2008	\$77,859	\$105,972	\$28,113	73%	\$30,302	93%
1/1/2006	\$61,539	\$91,823	\$30,284	67%	\$26,229	115%
1/1/2003	\$41,299	\$72,770	\$31,471	57%	\$23,638	133%



## FRANKLIN REGIONAL RETIREMENT SYSTEM

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### ACTUARIAL METHODS AND ASSUMPTIONS

#### Actuarial Methods

- 1. Actuarial Cost Method**

The Entry Age Normal Actuarial Cost Method has been used in this valuation. Under this method, the normal cost is the amount calculated as the level percentage of compensation necessary to fully fund the prospective benefits from each member's entry age to retirement age.

The actuarial accrued liability represents the theoretical accumulation of all prior years' normal costs for the plan members as if the program had always been in effect. The unfunded actuarial accrued liability is the excess of the actuarial accrued liability over plan assets.
- 2. Asset Valuation Method**

Market value of assets (adjusted by payables and receivables) adjusted to phase in investment gains or losses above or below the expected rate of investment return over a four-year rolling period. The phase-in is 25% for year one, 50% for year two, 75% for year three and 100% for year four. The actuarial value of assets may be no less than 90%, or more than 110% of the market value of assets plus payables and receivables.
- 3. Fiscal Year Adjustment**

The actuarial results are adjusted by the valuation interest rate and salary scale to the beginning of Fiscal Year 2014. The unfunded actuarial accrued liability is rolled forward with normal cost and further adjusted by anticipated contributions and interest.

#### Actuarial Assumptions

- 1. Investment Return**

7.875% per year net of investment expenses. *(Same as the prior valuation)*
- 2. Salary Increases**

4.25% per year. *(Same as the prior valuation)*





## FRANKLIN REGIONAL RETIREMENT SYSTEM

### ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

3. Withdrawal Prior to Retirement      The rates shown at the following sample ages illustrate the withdrawal assumption.

<i>Age</i>	<b>Rate of Withdrawal</b>	
	<i>Group 1 and 2</i>	<i>Group 4</i>
20	37.51%	3.15%
25	28.23%	2.85%
30	17.35%	2.48%
35	10.07%	1.88%
40	7.21%	0.84%
45	5.68%	0.06%
50	4.57%	0.00%
55	0.00%	0.00%

4. Disability Prior to Retirement      The rates shown at the following sample ages illustrate the assumption regarding the incidence of disability:

<i>Age</i>	<b>Rate of Disability</b>	
	<i>Group 1 and 2</i>	<i>Group 4</i>
20	0.03%	0.10%
25	0.04%	0.12%
30	0.06%	0.18%
35	0.08%	0.26%
40	0.12%	0.38%
45	0.18%	0.58%
50	0.31%	0.98%
55	0.50%	1.60%
60	0.61%	1.97%

Disability is assumed to be 45% ordinary and 55% accidental for Group 1 and 2 and 10% ordinary and 90% accidental for Group 4.



# FRANKLIN REGIONAL RETIREMENT SYSTEM

## ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

### 5. Rates of Retirement

The rates shown at the following ages illustrate the assumption regarding the incidence of retirement, once the member has achieved 10 years of service:

Age	Rates of Retirement	
	Group 1 and 2	Group 4
50	N/A	2%
51	N/A	2%
52	N/A	2%
53	N/A	2%
54	N/A	2%
55	10%	5%
56	3%	5%
57	3%	5%
58	3%	5%
59	5%	5%
60	5%	10%
61	5%	10%
62	10%	20%
63	10%	20%
64	10%	20%
65	50%	100%
66	35%	N/A
67	35%	N/A
68	35%	N/A
69	35%	N/A
70	100%	N/A

### 6. Mortality

The RP-2000 mortality table for healthy annuitants (sex-distinct) projected 17 years with Scale AA. *(previously RP-2000 table with 10 year projection)*

### 7. Disabled Life Mortality

The RP-2000 mortality table for healthy annuitants (sex-distinct) projected 17 years with Scale AA set-forward by 2 years. Death is assumed to be due to the same cause as the disability 40% of the time. *(previously RP-2000 table with 10 year projection)*

### 8. Regular Interest Rate Credited to Annuity Savings Account

2% per year.



## FRANKLIN REGIONAL RETIREMENT SYSTEM

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### ACTUARIAL METHODS AND ASSUMPTIONS

(Continued)

- |                              |   |
|------------------------------|---|
| 9. Family Composition        | Members assumed married with 2 dependent children – one male and one female both age 15; age difference between member and spouse assumed to be 3 years (the male being the older). |
| 10. Cost-of-Living Increases | A 3% COLA on the first \$14,000 of a member's retirement allowance is assumed to be granted every year.   |
| 11. Administrative Expenses  | Estimated budgeted amount of \$465,976 for the Fiscal Year 2014 excluding investment management fees and custodial fee is added to the Normal Cost.                                 |
| 12. Step Increases           | Step increases are assumed to be part of the salary increase assumption.  |
| 13. Credited Service         | Service between date of hire and date of membership is assumed to be purchased by all members.  |
| 14. Contribution Timing      | Contributions are assumed to be made semi-annually; payments made on July 1 and January 1 of the Fiscal Year.   |
| 15. Valuation Date           | January 1, 2012.  |



## FRANKLIN REGIONAL RETIREMENT SYSTEM

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### SUMMARY OF PRINCIPAL PROVISIONS

1. Participant Participation is mandatory for all full-time employees whose employment commences before age 65. There are three classes of members in the retirement system:

*Group 1:* general employees

*Group 2:* employees in specified hazardous occupations (e.g., electricians)

*Group 4:* police and firefighters

2. Member Contributions Member contributions vary depending upon date hired as follows:

<b>Date of Hire</b>	<b>Member Contribution Rate</b>
Prior to 1975	5% of Pay
1975 – 1983	7% of Pay
1984 – June 30, 1996	8% of Pay
After June 30, 1996	9% of Pay

Members hired after 1978 contribute an additional 2% of pay over \$30,000.

3. Pay
- a. Pay Gross regular compensation excluding bonuses, overtime, severance pay, unused sick pay, and other similar compensation.
- b. Average Pay The average of pay during the 3 consecutive years that produce the highest average or, if greater, during the last three years (whether or not consecutive) preceding retirement.
4. Credited Service Period during which an employee contributes to the retirement system plus certain periods of military service and “purchased” service.



# FRANKLIN REGIONAL RETIREMENT SYSTEM

## SUMMARY OF PRINCIPAL PROVISIONS (Continued)

### 5. Service Retirement

- a. Eligibility Completion of 20 years of credited service or attainment of age 55 and completion of 10 years of credited service. If hired prior to 1978 or a member of group 4, attainment of age 55.
- b. Retirement Allowance Determined as the product of the member's benefit percentage, average pay and credited service, where the benefit percentage is shown below (maximum allowance of 80% of average pay):

<b>Benefit Percentage</b>	<b>Group 1</b>	<b>Group 2</b>	<b>Group 4</b>
2.5%	65+	60+	55+
2.4	64	59	54
2.3	63	58	53
2.2	62	57	52
2.1	61	56	51
2.0	60	55	50
1.9	59	N/A	49
1.8	58	N/A	48
1.7	57	N/A	47
1.6	56	N/A	46
1.5	55	N/A	45

In addition, veterans receive an additional \$15 per year for each year of credited service up to 20 years.

### 6. Deferred Vested Retirement

- a. Eligibility Completion of 10 years of credited service (for elected and appointed members, 6 years in the event of involuntary termination).



## FRANKLIN REGIONAL RETIREMENT SYSTEM

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### SUMMARY OF PRINCIPAL PROVISIONS (Continued)

6. Deferred Vested Retirement *(continued)*
- b. Retirement Allowance                      Determined in the same manner as 5b. with the benefit payable at age 55, unless deferred until later at the member's option.
- Member contributions with interest may be withdrawn after separation from service. If contributions are withdrawn, eligibility for retirement benefits is forfeited. Members hired before 1984 receive full interest on contributions that are withdrawn; otherwise, one half the credited interest is provided for members who withdraw after 5 but before 10 years of credited service and no interest is provided for withdrawals before 5 years of credited service.
7. Ordinary Disability Retirement
- a. Eligibility                                      Non-job related disability after completion of 10 years of credited service.
- b. Retirement Allowance                      Determined in the same manner as 5b. with the benefit payable immediately. Veterans receive 50% of pay (during final year) plus an annuity based on accumulated member contributions with interest.
8. Accidental Disability Retirement
- a. Eligibility                                      Disabled as a result of an accident in the performance of duties. No age or service requirement.
- b. Retirement Allowance                      72% of pay plus an annuity based on accumulated member contributions with interest. Also, a dependent's allowance per year for each child. Total allowance not to exceed 100% of pay (75% for members hired after 1987).



## FRANKLIN REGIONAL RETIREMENT SYSTEM

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### SUMMARY OF PRINCIPAL PROVISIONS (Continued)

9. Non-Occupational Death
- a. Eligibility Dies while in active service, but not due to occupational injury. 2 years of service.
  - b. Retirement Allowance Benefit as if Option C had been elected (see below). Minimum monthly benefits provided as follows: spouse - \$250, first child - \$120, each additional child - \$90.
10. Occupational Death
- a. Eligibility Dies as a result of an occupational injury.
  - b. Benefit Amount Same as 8b.
11. Cost-of-Living Increases
- An increase of up to 3% applied to the first \$13,000 of annual benefit. Funded by the Municipality from Fiscal Year 1999. Percentage increase is voted on each year by the Retirement Board. Cost-of-living increases granted during Fiscal Year 1982 through Fiscal 1998 are reimbursed by the Commonwealth.
12. Optional Forms of Payment
- a. Option A Allowance payable monthly for the life of the member.
  - b. Option B Allowance payable monthly for the life of the member with a guarantee of remaining member contributions with interest.
  - c. Option C Allowance payable monthly for the life of the member with 66-2/3% continuing to the member's beneficiary upon the member's death. If the beneficiary predeceases the member, the allowance amount "pops up" to the non-reduced amount.



## FRANKLIN REGIONAL RETIREMENT SYSTEM

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### GLOSSARY OF TERMS

1. Present Value of Benefits Represents the dollar value today of all benefits expected to be earned by current members if all actuarial assumptions are exactly realized.
2. Actuarial Cost Method The procedure that is used to allocate the present value of benefits between the liability that is attributable to past service (Actuarial Accrued Liability) and that attributable to future service.
3. Actuarial Assumptions Estimates are made as to the occurrence of certain events that determine the level of benefits to be paid and how long they will be provided. The more important actuarial assumptions include the investment return on assets, salary increases and the rates of turnover, disability, retirement and mortality.
4. Actuarial Accrued Liability The portion of the Present Value of Benefits that is attributable to past service.
5. Normal Cost The portion of the Present Value of Benefits that is attributable to benefits to be earned in the coming year.
6. Actuarial Assets Market value of assets (adjusted by payables and receivables) adjusted to phase in investment gains or losses above or below the expected rate of investment return over a four-year rolling period starting with the 2006 calendar year investment return. The phase-in is 25% for year one, 50% for year two, 75% for year three and 100% for year four. The actuarial value of assets may be no less than 90%, or more than 110% of the market value of assets plus payables and receivables.
7. Unfunded Actuarial Accrued Liability That portion of the Actuarial Accrued Liability not covered by System Assets.
8. PERAC Public Employee Retirement Administration Commission, a division of the State government which has regulatory authority over the administration of the retirement system.





## FRANKLIN REGIONAL RETIREMENT SYSTEM

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9. PRIT Pension Reserves Investment Trust Fund is the state controlled and administered fund for the investment of assets for members of the retirement system.
10. GASB Government Accounting Standards Board (issues guidance for disclosure of retirement system liabilities).



## FRANKLIN REGIONAL RETIREMENT SYSTEM

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### Acknowledgement of Qualification

Acknowledgement of Qualification for January 1, 2012 actuarial valuation of the Franklin Regional Employees' Retirement System:

I, Lawrence Stone, am a consultant for Stone Consulting, Inc. I am a member of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Lawrence B. Stone  
Member, American Academy of Actuaries