

Notes to the Basic Financial Statements *(Continued)*

December 31, 2012



Note 5 Actuarial Valuations and Methods

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A) Actuarial Asset Valuation

The actuarial value of assets is used in determining the funding progress of the Retirement Systems. The actuarial value of assets is based on a smoothed expected income investment rate. Beginning with the 2008 actuarial study, the investment rate of return assumption was changed from 8% to 7.75%. The 2011 actuarial study further reduced the investment rate of return assumption from 7.75% to 7.5%. Investment income in excess or shortfall of the

expected rate on fair value is smoothed over a 5-year period with 20% of a year's excess or shortfall being recognized each year beginning with the current year.

In 2009 two changes were made to the actuarial valuation. The first change was to increase the amortization period for amortizing the unfunded actuarial accrued liability (UAAL) from 20 years to 25 years. This funding period will be closed (i.e., the funding period will decrease by one year each year) until the funding period reaches 20 years, at which time the period will once again revert to an open 20-year amortization period. The second change was to widen the corridor used to determine the actuarial value of assets from 80% – 120% to 75% – 125% of market value.

This smoothed actuarial value of assets utilized by the actuary in determining the actuarial funding status of the retirement systems is also used in establishing the contribution rates necessary to accumulate needed assets to pay benefits when due.

The calculations on page 71 were utilized in determining the actuarial value of assets as of January 1, 2012, and December 31, 2012, and the next table shows the smoothed actuarial value of assets for each System.

B) Actuarial Accrued Liability

The actuarial accrued liability for the Systems is presented in the Required Supplementary Information Schedule of Funding Progress on page 80 and 81 of this report.

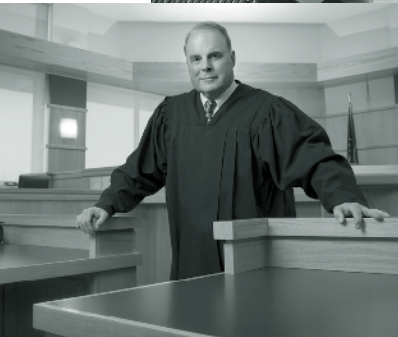
C) Actuarial Cost Method and Assumptions

The Board engages an independent firm of actuaries to estimate the present value of actuarial accrued liability for the purpose of determining actuarial accrued liabilities for active and terminated members, retired individuals and beneficiaries, and for the determination of contribution rates (note 6).

Actuarial accrued liabilities are future periodic payments including lump-sum distributions that are attributable to the service employees have rendered to date and the plan provisions of the various systems. The present value of actuarial accrued liabilities are calculated based on the entry age actuarial cost method with benefits based on projected salary increases.

A schedule of the actuarial assumptions used in the actuarial report dated January 1, 2012, is presented in Notes to Required Supplementary Information on page 83.

Actuarial valuations of the ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the



Notes to the Basic Financial Statements (Continued)

December 31, 2012

Calculation of Actuarial Value of Assets

January 1, 2012

(dollars in thousands)

1. Fair value of assets				\$19,952,853
2. Deferral to smooth asset values based on (excess)/shortfall of expected investment income for:				
	Year	Total Excess/ (Shortfall)	% Deferred	Amount Deferred
a. 2011		\$ (977,336)	80%	\$ (781,870)
b. 2010		955,382	60%	573,227
c. 2009		855,755	40%	342,300
d. 2008		(6,490,100)	20%	(1,298,022)
e. 2007		(286,303)	0%	0
f. Total deferred gains (losses)				(1,164,365)
g. Total deferred losses				1,164,365
3. Actuarial value of assets available for benefits*				\$21,117,218

December 31, 2012

(dollars in thousands)

1. Fair value of assets				\$22,150,599
2. Deferral to smooth asset values based on (excess)/shortfall of expected investment income for:				
	Year	Total Excess/ (Shortfall)	% Deferred	Amount Deferred
a. 2012		\$ 1,017,198	80%	\$ 813,760
b. 2011		(977,336)	60%	(586,399)
c. 2010		955,382	40%	382,154
d. 2009		855,755	20%	171,152
e. 2008		(6,490,100)	0%	0
f. Total deferred gains				780,667
g. Total deferred losses (gains)				(780,667)
3. Actuarial value of assets available for benefits*				\$21,369,932

*Actuarial value of assets cannot exceed 125% of the fair value of assets or below 75% of the fair value of assets.

Actuarial Value of Assets by System

January 1, 2012

Calculation of Net Assets Available Based on Five-Year Expected Investment Income (in thousands)

	Noncontributory System	Contributory System	Public Safety System	Firefighters System	Judges System	Governors and Legislators	Tier 2 Public Employees System	Tier 2 Public Safety and Firefighters System	Total All Systems
1. Net assets available for benefits at fair value	\$15,935,472	1,013,050	2,103,751	765,524	123,235	8,933	2,799	89	19,952,853
2. Deferral to smooth asset values based on excess/shortfall of expected investment income on fair value	870,480	122,201	118,451	45,240	7,326	632	34	1	1,164,365
3. Actuarial value of assets available for benefits (1-2)	\$16,805,952	1,135,251	2,222,202	810,764	130,561	9,565	2,833	90	21,117,218

future. Examples include assumptions about future employment, mortality, and the healthcare cost trend. Amounts determined regarding the funded status and the annual required contributions are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future. The schedule of funding progress on page 77, presented as required supplementary information, shows the actuarial value of plan assets compared to the actuarial accrued liabilities for benefits.

Notes to the Basic Financial Statements *(Continued)*

December 31, 2012

Contribution Rates

December 31, 2012

System	Contribution Rates as a Percent of Covered Payroll		
	Member	Employer	Other
Noncontributory	—	16.04-18.76%	—
Contributory	6.00%	12.03-14.27	—
Public Safety:			
Noncontributory	—	30.45-42.21	—
Contributory	10.50-12.29	19.08-27.95	—
Firefighters:			
Division A	15.05	2.66	11.84%
Division B	16.71	2.08	11.84
Judges:			
Noncontributory	—	32.87	14.02
Governors and Legislators	—	\$ 214,076	—
Tier 2 Public Employees	—	14.33-16.65%	—
Tier 2 Public Safety and Firefighters	—	12.19-31.87	—

Required Contributions

(dollars in thousands)

System	Normal Cost	
	Amount	Percent of Covered Payroll
Noncontributory Retirement System	\$484,406	12.76%
Contributory Retirement System	12,078	11.72
Public Safety Retirement System	80,082	21.85
Firefighters Retirement System	31,687	28.65
Judges Retirement System	3,912	26.28
Utah Governors and Legislators Retirement Plan	214	23.52
Tier 2 Public Employees System	14,208	6.97
Tier 2 Public Safety and Firefighters System	1,031	10.07
Total	\$627,618	